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A SURGICAL CLINIC.*

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The first case I have to present to you today is one of

APPENDICITIS.

This young man is the one whom you recently saw operated upon for gangrenous appendicitis, with perforation and acute peritonitis well under way. You remember that the pus poured out of the opening in the distended appendix as it was being withdrawn, and a good deal welled out thru the abdominal incision, yet the operation was done thru an inch and a half incision, not much time was spent in clearing out the pus, and the wound was closed without drainage.

In cases of this sort two or three extremely important new principles are brought into play. First, we depend upon leucocytosis to do what the surgeon used to think he must do, by the way he made the toilet of the peritoneum. When a case of acute infective appendicitis is progressing, it means that a warfare is in progress between the bacteria and the leucocytes. The bacteria are winning. If we turn out most of the toxin-bearing fluid in the peritoneal cavity, remove the appendix, and do it so quickly, and with so little shock to the patient that his normal cell resistance is conserved, we turn the tide of battle, and allow the leucocytes to win. This was the secret of Tait's success without antiseptics, but the principle was not known in his day, and his results were obtained empirically.

In order to do the work successfully one must of course have an intimate knowledge of the physiology of the peritoneum in such cases, and must properly manage the lypmh currents. It is best for one to employ the open incision methods until he gradually gains confidence out of experience with newer and better methods. If abscess forms later we have a safety valve in the knowledge that it will make its way to the surface along the line of the incision, and the patient has lost nothing. If there is no further pus formation, as often occurs, the patient has the advantage of saving time, and of avoiding the danger of post-operative hernia.

This treatment is commonly said to be dangerous by those who have not taken the trouble to look up statistics, but the statistics tell the tale. Sometimes when there is a good deal of oozing from adhesive surfaces, or a good deal of necrotic unseparated debris remains in the peritoneal cavity we must drain, but with one small drainage wick only; one which allows of nearly complete closure of the incision.

In this case the peritonitis came to a halt, the muscular wound healed by primary union, but an abscess develop beneath the skin. Its contents were evacuated, and I am showing the case today in illustration of the quick recovery that can be made in such cases.

CORN GRAFTING.

This patient had an adeno-carcinoma of the mammary gland. We had to leave a large space open for granulation. Part of the Thiersch grafts that we placed on the surface at the last clinic have caught nicely, but there is still a good deal of granulating surface. We now bring in a patient who has a corn upon his toe, and the corn is scraped with the edge of a knife until we have a good collection of the dust. The corn dust is sprinkled over the granulations. A corn represents a hyperplastic development of epithelial cells, and such cells are particularly active in starting new islands of epithelium upon a wound surface. We could not use such material upon a fresh wound for fear of sepsis, but granulation tissue has no lymphatics, and we can here use the corn dust safely. The surface of the wound is next covered with Cargile membrane. This consists of sterilized ox-peritoneum and is a particularly grateful covering to lie between the tissues and the absorbent dressing that is placed over all. Absorbent dressings should never be placed in contact with any wound surface. They entangle new epithelium and granulation tissue, and prolong repair, besides stimulating the development of excessive granulation. Further, if dressings have to be changed it injures the wound, and hurts the patient when they stick. Gutta percha tissue is perhaps the most commonly employed material to protect the wound surface, but it is too impervious to fluids. Lister's protective oiled silk is better. Silver foil is better yet, but the sterilized peritoneum seems to me to be the best thing yet in use for the purpose.

CELLULITIS.

This man came to us a week ago with an infected glass wound of the hand. The hand was enormously swollen, and the tissues pitted on pressure. An infective lymphangitis was making crimson lines along the course of the lymphatics of the arm. We employed here the principle that is employed by the boy whose dog has a woodchuck in the stone wall. By taking out a few stones the dog can get at the woodchuck, and quickly shakes the life out of him. In this hand the serous exudates were preventing the leucocytes from getting at the bacteria. We made a number of longitudinal incisions into the sodden tissues, allowed the obstructing serum to escape, and you see today that we allowed the leucocytes to get thru their channels and pitch into the bacteria.

What treatment is now to be employed? Such a hand will remain stiff and sometimes nearly useless for years, because the lymph-exudates seal in the tendon-sheaths, compress the nerve filaments, and otherwise interfere with complete recovery. We shall stimulate the lymphatics to the greatest possible degree of activity by having the patient once a day put his hand in a pail of water at 115 degrees F., for half a minute, and then in a pail of ice water for half a minute; repeating the process for a period of three minutes for the first few days. Later he will do this morning and evening. The hand will become swollen and red, and its appearance will make the patient think that he is getting worse, but the tremendous stimulation caused by this treatment will cause such a rapid absorption of organized plastic exudate that we may expect to have a useful hand at the end of a month..

GONORRHEAL ARTHRITIS.

This young man's wrist presents a typical picture of gonorrheal arthritis. It is swollen, red and several degrees hotter than the other wrist. All of the synovial structures in the vicinity appear to be involved, but the synovial irritation is secondary to the influence of the wandering gonococcus of Neisser in the fibrous structures. The wandering gonococci prefer such fibrous structures as the ligaments of the joints, the nuchal cord, or the sclerotic coat of the eye, but they occasionally involve other structures, and some time ago I publisht in the New York Medical Journal cuts of a case in which the gonococcus caused round ulcerations of the skin of the legs. After involving fibrous structures primarily they commonly extend into synovial cavities, and are often followed by terminal infections.

The pain and restlessness caused by the tension in joint cavities are relieved by drawing off the fluid with an aspirator, but for cure we are to depend first upon local treatment of the primary focus of infection in the genital tract, and then upon general treatment which nourishes and stimulates the patient, and thereby increases his general cell resistance. Such cases are remarkably curable if under the treatment of a physician who actually and directly increases the general cell resistance of his patient; but a most unfortunate matter is the nomenclature of "gonorrheal rheumatism" that is commonly applied to the cases which are really instances of gonorrheal septicemia.

The name "rheumatism" is a death-dealing one, because under that name treatment of a depressing sort is often applied and attention is concentrated upon the joint lesions chiefly. The name "gonorrheal rheumátism" belongs to the black trio of names of which "catarrhal appendicitis" and "wood alcohol" form the other two. Under the name of "catarrhal appendicitis" cases with concretions, perforations, tuberculosis and other grave features are allowed to drift on to disaster, because the physician hides his head under a name which he applies without really knowing the actual pathology present in any given case. As to "wood alcohol," few men are afraid of the name of "alcohol," and the name of "wood" has fewer terrors still; consequently there are deaths and blindness frequently occurring because of the fatal nomenclature. Remember the "black trinity" of names: "gonorrheal rheumatism," "catarrhal appendicitis" and "wood alcohol."

*Reported especially for the American Journal of Surgery and Gynecology.

BRUISED FINGER NAIL.

This patient has just caught his hand in machinery, and there is a collection of blood under the nail of the second finger. The tension caused by such an effusion is often very great, but we can give quick relief, and sometimes save the nail by boring thru it with the point of a scalpel and allowing the blood to escape. It must be done under aseptic precautions, and it is well to apply an absorbent compress rather firmly afterward.

SPINAL INJURY.

The young man who has just been brought in tells us that he was struck upon the back of the neck by a ten-pound bundle thrown down six stories of an elevator shaft. For some minutes he walkt about complaining only of the local pain, but soon began to notice a numbness in the hands and feet, and there is now a partial paralysis of the nerves of sensation and of motion of the extremities. On examination I fail to find evidence of injury to any of the bones of the spinal column, and as the partial paralysis came on gradually we are probably dealing with an effusion of blood or of serum that is making pressure upon the cord. The patient will be sent to the wards, and we shall have a report that is more elaborate after a careful examination with various tests has been made.

OSTEOMYELITIS OF THE HUMERUS.

Four months ago this youth's arm became swollen and red, and there was a good deal of constitutional disturbance. A month later an abscess appeared near the deltoid margin and was opened by his physician. The sinus has remained open and discharges great quantity of pus. On examination with the probe we find an area of bare bone and there is little doubt that the patient is suffering from osteomyelitis. Sometimes the little aggregations of the bacteria of osteomyelitis are visible to the naked eye, in the form of minute scarlet points. Osteomyelitis of this type is distinguisht from tuberculosis chiefly by the character of the onset. In tuberculosis it is apt to be slow and without a great amount of swelling or redness at first, while in osteomyelitis the attack is often sudden and accompanied by great constitutional disturbance.

In this case the cancellous structure of the whole of the diaphysis of the humerus is probably invaded and the patient will enter the hospital for a radical operation. We shall chisel a trough in the humerus, and if it is all invaded shall remove the entire diaphysis, saving the epiphyses and the periosteum. Very remarkable regeneration of bone will occur in such cases, and it is possible to have a new humerus that is practically as good as the original one.

INCLUSION CYST.

This boy presents a swelling over the malar bone that has developt gradually during the past year, without pain. It fluctuates and is apparently attacht to the skin. The skin over the swelling is now frozen with ethyl chloride and the incision which we make reveals a sebaceous, inclusion cyst. The sac is easily pulled out with a pair of forceps. Sebaceous inclusion cysts are particularly apt to occur upon the scalp, where they commonly receive the name of "wens," but they may be found almost anywhere beneath the skin at points where the natural escape of sebaceous matter has in some way become obstructed. The very large collections which sometimes form indicate that the obstructed sebaceous glands are aroused to an unusual degree of activity when the outlets are dammed.

SYPHILITIC OSTEITIS.

This patient tells us that he struck his head against a shelf in 1893, and that a month later a piece of dead bone came out of a swelling that formed upon his forehead. Since that time large quantities of dead bone have come from various parts of the skull. I fear that he has forgotten part of his history. The case is so typical of tertiary syphilitic osteitis that we shall need much convincing before making a different diagnosis. You observe the deep depressions over various parts of the skull at points from which the bone has separated, and several of these craters are still suppurating. The nasal bones are involved and the right malar bone has disappeared in part. If the patient could be placed upon anti-syphilitic treatment and if he would follow such treatment assiduously for a long time there is a probability that the case, tho of an intractable type, could be brought under control, but there is little hope that the patient will be amenable to treatment so irksome and prolonged.

A BRIEF NOTE ON COMPOUND FRACTURES.

BY THOMAS H. MANLEY, M. D., PH. D., NEW YORK CITY,
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When the fragments protrude at the site of a sundering of a shaft, the integument being divided or lacerated, the type of fracture is designated "open" or "compound"—these terms always implying some especial coincident lesion other than the osseous. In the near past this phase of injury was one of serious import because of the tendency to infection, suppurative infiltration, gangrene, erysipelas and necrosis.

Gunshot fracture involving an articulation or shaft commonly presents all ordinary features of an open fracture produced in any other manner.

It is generally taken for granted that when the fragments make their way thru the skin and fascia the degree of vulnerant force sustained has been extreme and the extent of damage to the soft parts large.

In pre-antiseptic times we were always apprehensive in the management of this class of injuries until that stage of healing when we saw the soft parts envelop the osseous lesion. The complications of open fractures, e. g., the laceration of the integment, muscles, etc., we generally view with alarm, because this investing membrane gives way only under very considerable violence; as sometimes we meet with the shaft extensively shattered, or we may find a "bean-bag fracture" at the elbow while the skin remains unbroken; the muscles may be torn, the vessels and nerves lacerated—in fact the subcutaneous parts ground to a pulp; yet neither abrasion nor discoloration of the surface be present. Nay—in some of these cases of so-called "simple fractures" the limb has sustained mortal injury, the blood-current being cut off with prompt asphyxia and dry gangrene resulting. In such cases we must beware about applying rule-of-thumb treatment, lest by the application of splints and bandages to such an injury we be accused of destroying the limb.

The mere opening of the integument, or the projection of fragments thru the skin, when properly treated, is frequently of no significance at all, as repair is as rapid and complete as in the ordinary closed fracture. It took centuries to make surgeons bring themselves to coolly, deliberately and critically examine an open fracture. From the first glimpse of the ghastly spectacle they were painfully haunted by the night-mare of amputation; then after the limb was off it was properly scrutinized—and often it was only too evident that its severance was a blunder. The dawn came with the discovery of anesthesia, when painless examination was possible; yet for nearly fifty years there was no organized effort made to save these cases. The horizon was fully illuminated only with the advent of antiseptics: Surgeons then for the first time appreciated the importance of deliberate inspection and delay—if doubt existed as to the vitality of the crusht parts. Severe cleanliness, vigorous antisepsis, nipt in the bud incipient putrescence; sanitation and hygiene with a little humanity have been powerful aids to modern surgery. Time was when filthy surroundings of down-trodden and drunken laborers favored death from sepsis in most such cases—for filth infects and rum-soakt patients are bad subjects for osseous repair. Today the masses are no longer enslaved—they are treated rather better than domesticated animals; and—thanks to the unselfish labors of the great American apostles of Temperance, men like that patriarch, Dr. N. S. Davis, that veteran, Dr. T. D. Crothers and the late Dr. Isaac M. Quinby—less alcohol, in every form is being imbibed. Besides, an intelligent, progressive people have been made to realize the advantages of the modern hospital with its abundant supplies, scientific and humane nursing, intelligently used appliances for the prevention of infection. With these changes we are now able to save practically every crusht extremity if it has not been totally destroyed at the time of injury.

TYPES OF OPEN FRACTURES.

1. The first class is that in which the fragments are more or less exposed without extensive, coincident laceration of the tissues. This occurs most frequently with those which involve the superficial bone-shafts.

2. The next in severity are those in which there is a multiple fracture, or a shattering of bone; some of the fragments lie free in the breach, quite wholly detacht from any of the soft parts; there is free hemorrhage at the site of the injury: and for some time after there is evidence of tissue asphyxia in the parts beyond. The skin is blancht, bloodless, cool and numb in places; the tissues are essentially in a state of suspended animation—a

condition bordering on death. The limb may present a most ghastly aspect, and by the inexperienced eye the impression may be gathered that all hope of preservation is lost.

TRAUMATIC AMPUTATION.

The most extreme degree of disorganization is that which we note when limbs have been traumatically severed from the trunk, or there is a physiological separation of the crusht member. These we rarely or never see in civil practice except in railroad or machinery accidents.

Avulsion fracture—one in which the limb is bodily crusht or torn off, is sometimes witnesst in the upper extremity. Two such cases have come under my care. One in a lad of 12 years, caught in a swiftly moving belt and dragged to the cylinder where the arm was torn off with such violence as to be projected some twenty feet, the boy tumbling to the floor; he raised himself unaided and glancing about saw his left arm lying in the distance; he lost but little blood, owing to the timely and skillful aid of the overseer. The other patient was a girl of 14 years employed in a silk factory. In this instance the right arm was twisted off in an instant by a shaft set in a perpendicular position; she was twisted about in a circular movement before the limb was wrung from the body; in this case, also, timely aid suppresst all large hemorrhage, until professional succor arrived. Both of these patients made a good recovery. It is interesting to note that in both of these somewhat remarkable accidents: 1st, the articular head of the humerus was not luxated, the resistance of the deltoid muscle being greater than that of the bone-shaft; 2nd, the site of fracture in both was on a line with the insertion of this same muscle, the nerves and blood-vessels giving way below this point.

In crush-amputation from car-wheels the danger of death from hemorrhage is very great; and in all the degree of exsanguination is generally considerable before means for effective hemostasis is available. In my experience the danger from this type of hemorrhage is greatest when the crush is thru the lower third of the leg or the arch of the foot.

The large loss of blood is always a serious complication in open fracture; first because of its immediate effects in the system by inducing dangerous shock, with its grave depression of all of the vital processes except mental; second because of its retarding the process of repair, by impairing the vitality of the tissues and thus favoring the invasion of the microbes and the entzymic elements of decomposition.

Effective hemostasis should therefore be the first concern of the practitioner in all severe open fractures. Caution must be observed, tho, that this is effected without imperilling the vitality of the limb beyond the site of fracture. If possible the larger lacerated arteries should be sought out and closed separately; if this is not expedient then firm tamponing with aseptic gauze (or any other clean material at hand) may be practist. The elastic constrictor must be reserved for exceptional cases, as where assistance is not at hand or the blood is escaping in huge jets. I have seen several limbs sacrificed by the too prolonged or injudicious employment of the Esmarch bandage. In the hands of a non-medical man it is indeed a dangerous device. I well remember the emphatic injunction of Baron Esmarch himself, when teaching the technic of its application: the warning to apply it only with such force as will arrest the arterial stream, and not to permit it to remain on longer than absolutely necessary.

PROLAPSE OF THE KIDNEY IN RELATION TO PELVIC DISEASE.*

BY AUGUSTIN H. GOELET, M. D., NEW YORK CITY,
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Pelvic congestion of serious degree may result from prolapse of the kidney. The aorta may, in such cases, be so crowded against the vena cava as to cause much interference with the return circulation, and the displaced kidney may rest directly upon the ovarian vein as it ascends to empty into the vena cava, hence pressure upon the fallen kidney by corsets, clothing or even from accumulation of intestinal gases may obstruct the circulation and result in pelvic congestion. Even in the early stages of prolapse, the kidney may compress the ovarian vein, because it does not, as a rule, descend directly downward, but more often the lower pole is directed inward toward the spine and overlaps the vein and uterer. There is no doubt but that the circulation of the ovarian vein may also be arrested by sharp flexure of the ureter over it when the kidney is in an advanced degree of prolapse, since the ureter is behind the vein where they cross and is fixt more or less by the peritoneum covering it. Another cause of compression of this vein, at times, may be distension of the ureter when for any reason there is obstruction below the point where it is crosst by the vein. If this obstruction to the circulation thru the ovarian vein was constant, there would undoubtedly be establisht an accommodation for the return circulation from the pelvis thru other channels, but since it is not constant, the effect is more pronounced and the result is a profound congestion of the pelvic organs, under favorable conditions, when the kidney is prolapst, that is, during the greater part of the twenty-four hours when the patient is about on her feet.

This cause of compression of the ovarian vein by the kidney is not observed in autopsies because the kidney is found replaced usually, unless it has become fixt in its abnormal position by inflammatory action involving the structures immediately surrounding it.

The hepatic and intestinal disturbances associated with prolapse of the kidney also have a markt influence upon the production of pelvic congestion.

Prolapse of the kidney may not, in every instance, produce pelvic congestion because the position may be such that it does not compress the ovarian vein, or the kidney may be unusually small—atrophied—and may not occupy sufficient space to make this result possible, or the other conditions enumerated may not prevail. Then, too, all women do not wear corsets or tight clothing. It must be remembered, however, that the prolapst kidney is frequently larger than normal from vascular engorgement, because traction upon the renal pedicle incident to displacement narrows the caliber of the renal vein by stretching it out, thus retarding the return circulation of the kidney itself; or it may result from twisting of the pedicle.

Atrophy of the prolapst kidney may be produced by prolonged pressure from accumulated urine in the pelvis and calices from obstruction of the ureter due to flexion or torsion, or calculus. Yet these atrophied kidneys may at times become greatly enlarged from vascular turgescence or hydronephrosis (H. Morris). Hence, the same kidney may be unusually small at one time and greatly enlarged at another. It is well to bear this in mind in estimating the possible influence a small misplaced kidney may have upon the circulation of the pelvis.

ASSOCIATED CONDITIONS.

The conditions in the female pelvis that are found most frequently associated with prolapse of the kidney and apparently dependent upon it as a cause, either direct or contributing, are:

Dysmenorrhea of the congestive type, the hyperemia involving the tubes and ovaries as well as the uterine mucosa. When brought about by this cause, the dysmenorrhea is usually acquired after puberty and increases in severity, resisting the measures that ordinarily afford relief.

Profuse, persistent leucorrhea of nonseptic character I have often observed in conjunction with prolapse of the kidney. It appears to be a hypersecretion due to simple hyperemia and is most intractable, causing great discomfort to the patient. It is very often encountered in unmarried women who have one or both kidneys prolapst, and it disappears only when the kidney is fixt.

Endometritis of the so-called catarrhal variety, salpingitis of the same type, and ovaritis with, at time, considerable enlargement of the ovary, are often found associated with prolapse of the kidney.

In this connection I recall a case sent to me for operation by the family physician with a diagnosis of pus tube and endometritis. On examination I found a large right ovary which was very sensitive, and the right kidney prolapst to the fourth degree. There was also a laceration of the cervix and a profuse discharge. There were, however, no adhesions about the ovary and no evidence of structural disease. I decided, therefore, not to open the abdomen, but curetted, repaired the cervix and fixt the kidney. The patient made a perfect recovery. The ovary gave no further trouble, and soon became reduced to normal size.

Endometritis, associated with prolapse of the kidney and depending upon it as a cause, often resists the usual treatment of curetting, etc. I have cured a number of such cases by merely fixing the kidney.

Endometritis and salpingitis of more serious type may also arise from this same cause, or be aggravated greatly by it; the congestion of the mucosa aiding rather than retarding the devel-

*Synopsis of paper read before the American Medical Association.

opment of the pyogenic bacteria associated with the inflammation.

Uterine displacements often result from the increast weight of the uterine body due to the prolonged congestion incident to the prolapse of the kidney. It is remarkable what a large proportion of retrodisplacements are associated with prolapse of on one or both kidneys. In such cases mere replacement of the uterus, by either mechanical or operative measures, will not relieve the patient unless the kidney also be suspended.

Hemorrhage from the uterus—menorrhagia and metrorrhagia—is another condition often found associated with prolapse of the kidney without other ascertainable cause. In two cases that came under my observation, the bleeding had resisted previous curettage (recurring after a few months), but it ceast after curettage combined with fixation of the kidneys.

Hematoma and hematocele not the result of ectopic gestation may be produced by over-distension of the vessels of the broad ligaments, having its origin in prolapse of one or both kidneys. In one of my cases where I opened the abdomen at the same time after fixing both kidneys, I found a hematoma of the right ovary. This ovary and that on the other side were both buried in adhesions, tho the tubes were in good condition.

Cystitis is also observed in conjunction with prolapse of the kidney, and may be caused by infection from the kidney or may result from prolonged congestion due to the position of the kidney. Irritable bladder is certainly a frequent symptom, being present, according to my experience, in about 15 per cent of these cases.

There may be other conditions in the pelvis that I have not observed, traceable to descent of the kidneys as a cause, and it is well to bear this possible cause in mind in dealing with those conditions which may be brought about by prolonged pelvic congestion. I would urge, therefore, that as a routine measure all gynecological patients be examined for prolapse of the kidney.

CLINICAL SIGNIFICANCE.

The clinical significance of nephroptosis is well illustrated by the diversity of the symptoms it gives rise to. These may be arranged in three groups:

1. Gastro-intestinal disturbances, manifested by gastric irritability, intestinal constipation, repeated bilious attacks and recurring attacks of jaundice.

2. Disturbances of the circulation and of the nervous system, manifested chiefly by vertigo, syncope, palpitation of the heart, epigastric pain, neurasthenia, hysteria, nervousness, restlessness, insomnia and lassitude.

3. Disturbances of the genito-urinary organs, manifested by symptoms of disease of the female pelvic organs, irritability of the bladder and paroxyms of renal pain, which may be due to obstruction of the ureter from flexure or twisting, or to stone in the calices, pelvis or ureter.

Pain in the region of the kidney is rare. Apart from the renal crises referred to, it is usually limited to a dull aching in the loin, sometimes extending to the groin and down the thigh. Very often these patients fail to mention pain in this location when enumerating their symptoms, but will admit it when pressure upon the sensitive displaced kidney serves as a reminder. Pain in the region of the appendix and in the ovarian region of the same side as the displaced kidney is not uncommon.

Loss of flesh sometimes amounting to emaciation is often observed, and in some of the cases there is pronounced anemia, showing that prolapse of the kidney may produce a profound impression upon the general system, and unless it is correctly accounted for it would not be remedied. I have known some of these patients to lose as much as 50 or 60 pounds within a period of two years. As a rule, the influence of nephroptosis upon the general system is pronounced only when the degree of prolapse is exaggerated or when the function of the kidney is seriously interfered with and the organ has become diseased.

Unfortunately the symptoms are seldom of sufficient severity to be unbearable, which leads to neglect of the conditions even after attention has been directed to it. Many times the symptoms appear to be absent when the prolapse is detected because no effort is made to bring them out in the history; hence it is often asserted that nephroptosis does not, in some instances, produce symptoms, but if the examiner is familiar with the symptoms and looks for them, he will find them.

When prolapse of the kidney comes to be regarded as a serious condition which requires rectification organic disease of that organ dependent upon the displacement will be a more rare affection, because these conditions will be foreshadowed by early operation. That it now does often cause very serious disease of the kidney is well known to those who have given the subject serious consideration.

OF TREATMENT.

It is now pretty well understood that belts, supporters, etc., not only do no good but are sometimes positively harmful by the irritation of the kidney they produce. Even the manipulation incident to diagnostic palpation may cause undesirable irritation. The objection to belts and supporters obtains, however, only in advanced degrees of prolapse when the kidney has descended so that its upper pole comes below the lower border of the last rib in front (third and fourth degrees). When the kidney is prolapst only to the first or second degree, belts are of no use in supporting it and preventing or retarding its descent (?). But it is most unwise to disregard this condition when it is discovered, because apparently it is not producing symptoms. The tendency of prolapse of this organ, even of minor degree, is inevitably progressive, and in time it must become exaggerated if left to itself. Hence, prolapse of the first and second degree admit of external support by belts, but pads employed for producing pressure upon the abdominal wall with the intention of supporting or replacing the kidney, are objectionable and are to be discouraged.

Prolapse of the third degree or beyond requires operation, whether it is producing symptoms or not, or whether or not there is evidence of disease of the kidney, if the disease has not advanced beyond recovery, for the reasons already mentioned, which are self-evident. If the other kidney is prolapst only to the second degree, it should be fixt at the same time so as to avoid a second operation, which would subsequently become necessary. My experience leads me to be very positive upon this point. The operation is one of so little gravity that anyone requiring it should not be deterred from taking advantage of the opportunity it affords for cure of a condition that may be both troublesome and dangerous if neglected.

The failure of early operators to attain the degree of success desirable in securing permanent fixation of the kidney deters many from advising operation, and some surgeons even discourage it. When, however, it comes to be more generally understood that the prolapst kidney may now be permanently fixt, without injury to its structure and without risk to the patient, the operation will be more universally urged; more especially as there is no alternative, no other positive means of cure of a condition that carries with it often not only chronic invalidism, but a constant menace to health and even life, in disease of the most important excretory organ of the body.

PARALLEL COLUMNS ON APPENDICITIS.

BY F. HARRISON, M. D., NEW YORK CITY.

Visitors to the New York clinics certainly feel the necessity for a judicial mental attitude, and realize the responsibility that rests upon us as physicians whenever we want the assistance of some one who is recognized as an authority in any particular branch. Nowhere is this more apparent than in the matter of appendicitis, and in visiting different clinics one is struck by the fact that all of the methods that one sees cannot be the best, and therefore hundreds of patients every year must get treatment that is not what they might have had—even at the hands of men who merit their positions of surgical authorities. The views of two men who are perhaps the most talkt about in New York in this connection are so very different (excepting in one or two points) that I will put down in parallel columns the idea of their methods that one gets at their clinics.

Surely the whole matter must come down, in the end, to one of statistics and results and nothing else. In making a decision about either method there is no alternative apparently excepting for us to learn in our own way about actual results.

It would be better for New York men to go and see each other at work than for them to quarrel and to go to Europe for "new points." It might interfere somewhat with "originality," but the rest of us would have more confidence, and would feel more comfortable.

DOCTOR NO. 1.	*DOCTOR NO. II.
1. Appendicitis cases should be operated upon at the earliest moment after the diagnosis is made, for best results.	1. Agrees on this point.

*He who reads the excellent article on appendicitis in January issue of this journal cannot well mistake the identity of "Doctor No. 2."—Editor.

2. Cases in advanced stages when first seen should usually have the benefit of operation.	2. Agrees on this Point.
3. It is best to separate the abdominal muscles by blunt dissection, rather than by cutting, excepting where very long incisions are necessary.	3. Agrees; but seldom needs long incisions.
4. It is best to leave the incision open in septic and suppurating cases, even tho we run the risk of hernia afterward. It is the safer method, and gives drainage freely.	4. The safest method is to close the incision, nearly or completely, and to depend upon leucocytosis and management of the peritoneum. Hernia is also prevented.
5. It is best to use gauze drainage freely, to keep septic regions well open and apart for drainage.	5. It is never necessary to use gauze packing. It injures peritoneum, causes shock by its presence and when dressings are changed, and leaves an opening for hernia.
6. Iodoform is particularly valuable in connection with gauze drainage, as it keeps the wound in better condition, and helps to overcome local sepsis. It is not dangerous in itself if watcht.	6. Iodoform is not only unnecessary, but is particularly dangerous in the peritoneal cavity.
7. Rubber gloves worn by the operator are a great protection of the patient, because the hands can be kept aseptic.	7. Rubber gloves make need for longer incisions, require slower work and are unnecessary because fresh blood-serum makes the field soon aseptic.
8. If we have plenty of room for working by sight we shall do less damage than by working by touch thru small incisions, particularly in adhesion cases. If hernia results it can be easily repaired, if not prevented by provisional sutures.	8. If we work by touch thru short incisions we do less damage than by working thru longer incisions by sight, cause less shock and avoid hernia; particularly in adhesion cases.

There are many minor points in technic over which these two authorities hold widely different views, and both are showing their methods publicly to numbers of visitors to their clinics. Each operator does his work easily and well in his own way, but there must be a difference in actual results between the two methods, and that is a vital point when we have patients or friends to be advised.

Which shall it be?

VALUE OF THE X-RAY IN CANCER.*

BY A. R. ROBINSON, M. D., L. R. C. P., NEW YORK CITY,
Professor of Dermatology in the New York Polyclinic.

In an address before this association two years ago on the use of caustics in cutaneous cancers, I maintained that the greater majority of all cases of cutaneous cancer be readily removed with very slight, if any, apparent deformity, if seen early, diagnosed correctly and treated with the proper caustic on definite lines such as were laid down by me at that time; and that, furthermore, with some exceptions, this surgical method of treatment is superior to an operation with the knife.

Since that time I have given considerable study to the use of the X-ray in this class of cases, to which it is generally considered most applicable—the chief plea in its favor being that it does away with the necessity of using the knife in the majority of cases, and that the deformity following the treatment is so slight comparatively with that after excision. These same arguments were employed by me in advising the use of caustics instead of the knife in suitable cases (and they are the majority of all cases), and that advice was based on the careful observation of nearly twenty years on the results of the two methods of treatment: operative vs. caustic.

*Synopsis of paper prepared for the Canadian Medical Association.

It will be my task at this time to describe what, with our present, knowledge of the subject, can be accomplisht with the Roentgen rays in cases of cancer, and, by comparing the results obtained with those gained by other methods of treatment, give it the proper place (and it has an important place) in our armamentarium against the disease.

For the intelligent treatment of any case of cutaneous cancer (epithelioma) by either knife, caustic, or X-rays, it is absolutely necessary to recognize not only the form of cancer present, and its tendencies as regards rapidity of growth, and the direction of extension, but also the probable extent of the cancerous infiltration into the neighboring tissues. Besides this it is essential that the doctor shall thoroly understand the technic of the proper application of the ray by the apparatus employed, and very especially also to be able to judge what changes in the tissue, both normal and pathological, are being produced by the rays, in order to give the proper treatment as far as the character of the exposures and the proper interval of time between the exposures is concerned. In this connection it is proper to remark that for the superficial forms of cancer a low vacuum tube giving much Roentgen light but slight penetration should be used, while for the deeply situated malignant growth a medium (or high) vacuum tube—giving less light but more penetration—must be selected.

With, then, our present limited knowledge of the kind of tube to be employed, the length of exposure, the frequency of application, the distance required, etc., what can be accomplisht?

It is probable that the majority—perhaps a large majority—of superficial epitheliomata (especially of the skin) can be eradicated by the X-ray if it be applied before the disease has invaded the deeper structures; five of eighty cases of rodent ulcer treated by Squire, of London, 34 were cured, and most of the remainder were improving. The most superficial form of epithelioma (commonly called the eczematous form), has in my work yielded best to the ray treatment. If the disease is not multiple and the lesion is small—not larger than a silver quarter dollar—other agents are better, especially pyrogallic acid, arsenic or acid nitrate of mercury; and besides they are much cheaper. But if the lesions are multiple, and particularly if the deeper tissues be implicated, the X-ray is to be preferred—it not only removes the existing lesion but influences the nutrition of the skin in such manner as to prevent recurrence. In my experience a combination of caustics, X-ray treatment and internal medication gives the best results in these cases. The internal treatment consists in securing the proper degree of alkalinity of the system, the avoidance of a meat diet and the administration of either arsenic or thyroid extract, or of both.

When the disease is present in the form of a papule or tubercle, with an unbroken surface, the lesion can be destroyed by the rays alone. The treatment, however, would require several weeks, perhaps longer than two months' time, with exposures two or three times weekly. With a few exceptions I believe that in these cases cauterization is much to be preferred, as the destruction can be completed in a few minutes if caustic potash or the Paquelin cautery be used, and in a few hours, by the use of an arsenious acid paste. Failures to cure are rare, and the resulting scar deformity is usually very slight, or perhaps not recognizable except upon close inspection. Freezing the part with ethyl chloride, and removal of the lesion by excision, is also preferable to the rays in these cases; or cocaine injection can be used instead of freezing the part.

If the lesion is on the eyelids, and the invasion into the subepithelial tissues is considerable, the rays should be used, as with them the disease can be removed with less destruction of normal tissue than by any other method. I have not seen any ill results to the eyeball from the rays, altho I would advise that it be protected from penetration by them.

When the papule or tubercle is on that part of the nose near the inner canthus, and covered with apparently normal epidermis, the use of caustic potash or acid nitrate of mercury is the better treatment, as it is effective, the deformity resulting is too slight to be considered, and the lesion is quickly removed. The rays do not act so favorably or so promptly when the lesion is covered with normal epidermis as they do when an erosive or ulcerative condition is present. In the former case, if the operator desires to rely principally upon the X-rays, it is advisable to first remove the healthy epidermis by curettage, or by a caustic, before employing the rays. As the majority of these cases are of the rodent ulcer type, this primary action on the epidermis is not followed by secondary lymph-gland infection; but in the other forms of epithelioma such partial removal and mutilation might have serious consequences.

For epithelioma of the alae the X-ray is always to be pre-

ferred to any other form of treatment. But if there be present also a wart or eczematous patch the cautic should be first applied, followed in a few days by the X-ray.

When the bone has been invaded by the disease the rays will be found to give better results than any other method.

The value of this treatment in cancer of the penis has not yet been determined. If the lesion be upon the scrotum the knife is the quickest and probably the best means of removal.

There are many cases of epithelioma of the superficial form in which there is a great tendency to reappearance or recurrence after apparent cure. The normal relationship between the epithelium and the connective tissue is changed, or there is a rebellious nature in the epithelial cells, or there may be other underlying causes of epithelioma, at any rate new lesions continue to appear. Such cases should be treated with the rays, with or without other local agents, and with such drugs, internally, as thyroid extract and arsenic, with the object of changing the nutritive condition of the part. When the cancer is situated upon an extremity or about a large blood-vessel, it is, as yet, undecided whether it is better to amputate or to use the rays. It is my opinion that where there is much glandular enlargement the rays should not be depended on if the case is still operable.

The cases of deep nodular and infiltrating epithelioma reported as treated by the rays are too few in number to enable one to form an opinion as to the comparative value of the agent in such a form of the disease. To rely upon the rays alone would seem to me to be not justifiable if the lesions are still recent and covered with apparently normal epithelium.

In that form of epithelioma called rodent ulcer, in which the disease extends downward into the deeper tissues even more than along the general surface, destroying all the tissues of the part as it extends, producing in time a deep ulcer with, as a rule, only comparatively slightly infiltrated walls; if the disease has reacht this advanced stage when treatment is requested by patients, and especially if the lesion is situated near the eye, as is usually the case, the rays offer about the only hope. Removal by incision or by caustic is, in such advanced cases, very rarely indeed successful, and should not be attempted if treatment by the rays can be had.

It is possible too soon to form a definite opinion as to the curative power of the X-rays in the advanced cases of the deeply destroying rodent ulcers, but from my own experience and that of others it appears that a certain percentage of these hitherto hopeless cases can be cured.

In cancer of the breast but few encouraging reports have been publisht; the successful cases have been chiefly recurrence after amputation. In seven inoperable cases reported by Johnson and Merrill there was no improvement from the ray treatment. Williams has found that the more slowly growing tumors —like scirrhus—offer greater resistance to the rays than do the rapidly growing cancers. It should, therefore, be reserved to inoperable and recurrent cases.

For superficial cancer of the lip I believe caustic potash preferable to the ray; and the deeper lesions yield so readily to the Paquelin cautery that I shall continnue to employ it, for the present at least; but in recurrent cases the ray should be tried, tho its curative value has not yet been determined for this class of carcinoma.

In cancer of the jaw the best that can yet be promist is to temporarily check the progress of the disease and reduce the size of the growth.

In cancer of the mouth and throat satisfactory results are not obtainable from the rays; the Paquelin cautery is therefore preferable—but the prognosis is always grave.

Cancer of the tongue is also unfavorable for X-ray treatment.

As for carcinoma of the internal organs, we have not so much to hope as some enthusiasts have tried to make us believe. Possibly with future advances in technic cancer of the stomach may be cured by the rays, but if Scholtz be correct in his assertion that the rays pass thru and do not injure the visceral organs (as the stomach, liver, intestines, brain, etc.), I fail to see grounds for hope in these cases. I think, however, that these observations may possibly be considered as not to be depended upon, otherwise how can we explain the disappearance of secondary growths in mammary cancer, or of growths in lymphatic glands?

What is true of cancer of the stomach is also true of cancer of the uterus, and so it need not be further discusst at present. If a cancer of the mouth cannot be cured, what hope can there be for one of the uterus?

What I have said of cancer of the stomach and of the uterus holds good as regards any internal cancer. The disease may be retarded and the pain lessened, but that is the limit of usefulness obtained up to the present time.

CONCLUSIONS.

1. The Roentgen ray is a very valuable addition to our armamentarium for the treatment of cancer.
2. Some cases of advanced epithelioma are incurable except by the rays.
3. Many of the cases cured and regarded as inoperable by other means could have been quickly cured in an early stage of the disease; hence physicians should devote proper attention to this serious disease; much more attention than they have as yet given it.
4. The majority of cases so far reported as cured have been cases that could have been cured much more quickly by the knife or caustics, especially by the latter.
5. In cutaneous cancer the scar is sometimes better after the ray treatment than after the use of caustics, but for the majority of cases caustics are preferable, as their action is definite and there is a great saving of time to the patient.
6. In many cases of cutaneous cancer the ray is a valuable agent in combination with other methods, and when the disease is situated around the important blood vessels it is the only proper agent to employ, except in some cases on the extremities, where amputation would be advisable.
7. All cases of carcinoma of the breast, except those seen in a very early stage, should be treated by the rays before resorting to the knife. The rays should also be used in all inoperable cases and in cases after amputation has taken place.
8. According to our present knowledge, the X-ray treatment is not curative in internal cancer of any part of the body—mouth, larynx, stomach, uterus, etc.
9. To obtain the best results there must be no fault in the technic of the operation, in order to avoid a serious burn and to get the desired action on the cancer tissue.

SPERMATORRHEA AND SEMINAL POLLUTIONS.*

BY F. R. STURGIS, M. D., NEW YORK CITY.

In this paper I desire chiefly to direct attention to the diagnostic points of difference between spermatorrhea and seminal pollutions, which is of interest: first, because this is a class of diseases which has been comparatively little workt over, indeed, has been rather slighted by the medical profession; and, second, because I have noticed in reading the literature of the subject (especially that which appears in medical journals), that there seems to be a confusion in the minds of medical men as to the nature of these two conditions. With the majority of doctors the two diseases seem to be convertible terms and practically the same. This, in my opinion, is decidedly wrong, and in consequence of this confusion the treatment of this class of diseases is uncertain and happy-go-lucky, being rather empirical than based upon sound, scientific knowledge.

In this paper I shall not attempt to present a clinical history of these two diseases except in so far as it may be necessary to elucidate the points which I wish to make, and these points I shall lay down as follows:

First. Spermatorrhea is a disease sui generis.

Second. Spermatorrhea has nothing in common with pollutions.

Third. Spermatorrhea does not usually lead to impotence.

Fourth. Pollutions may or may not be associated with spermatorrhea.

Fifth. Pollutions are liable to lead to impotence.

For the purpose of this paper I shall not, of course, under "pollutions" include the nocturnal variety, or what is vulgarly termed "wet dreams," but shall confine myself to a consideration of the diurnal forms of this type of the disease, where the losses are constant and where the results are much more serious than they are in the nocturnal variety.

1. Spermatorrhea is a disease sui generis and has nothing in common with pollutions. In this class of sexual disease the seminal loss which occurs is not constant. It occurs occasionally and under certain conditions, and those conditions are chiefly of the class which requires some strong muscular or expulsive effort to produce the loss; thus, severe coughing, sneezing, straining—as at stool, or during the expulsive effort made in lifting heavy objects, where the abdominal muscles are tense while resirpation is suspended. It is associated, but not constantly so, with a sense of smarting and burning in the deep urethra. The patient is then aware that fluid is running along the course of his urethra, and this sensation is associated with a distinct feeling of depression, so markt that, as patients have expresst it to me, they feel as

*Abstract of paper read before the Mississippi Valley Medical Association.

tho they had been "let down." This depression is not only mental, but physical and may last anywhere from fifteen minutes to two or three hours before the patient entirely recovers his normal tone. At the end of this time the patient has entirely recovered from his attack and feels practically as well as ever, having no sensation of mental depression or physical fatigue, nor any of the symptoms which would be groupt under the generic name of neurasthenia. The discharge may also be caused at times by constipation, which induces the seminal loss, not as has been supposed because the hardened feces press upon the ejeculatory ducts or upon the vesiculae seminales but because the fixation of the abdominal muscles, as well as the muscular effort necessary to expel the contents of the bowels, strip the seminal vesicles, much as a sponge is squeezed of the water which it may contain. But, oddly enough, the opposite condition may obtain and seminal losses may ensue with an attack of diarrhea, especially of that type known as "nervous diarrhea," but only where an irritation of the deeper portion of the canal is present.

2. Now let us turn to pollutions and see what occurs in this type of disease. Here the seminal loss occurs without any effort whatever. It is purely a passive condition, increast, of course, if violent expulsive efforts are made; but in the more advanced type of the disease this is frequently absent, and the loss is a steady, continuous one, the seminal fluid leaking and dribbling from the patient without any effort upon his part; the sensation of the urethral smarting or burning may or may not be present; if it is present it is continuous and not occasional, and the patient's entire urethra feels sore and tender; there is a continuous irritation thruout the canal. At stool, in seminal pollutions, there is no special increase in the loss; indeed, sometimes it is absent, but at the end of the act of defecation a gush of fluid may ensue, varying from several drops to a teaspoonful, unattended with any pleasurable sensation and hardly recognizable by the patient, so far as subjective symptoms are concerned; it may only be noticed by the patient at the end of his stool, when he finds that his under clothing is wet from the secretion which has escaped from his urethra.

As regards the subjective symptoms in these two classes of disease, the patient afflicted with spermatorrhoea is not neurasthenic nor hypochondriac. He is, as a rule, cheerful, physically capable and mentally sound. It is true he is somewhat upset by the thought that he is losing his semen, but it does not depress him to the same degree as it does the unfortunate victim of seminal pollutions. He is interested in the daily affairs of life; he attends to his business matters with promptness and efficiency and he is, taking it all the way around, still a man. The unfortunate pollutionist is the opposite. He is depresst, mentally and physically; he is unable to take any prolonged or sustained effort, whether the same be corporeal or mental; he is easily fatigued; he is constantly worrying about himself. In other words, he is a wreck, certainly not a man; he has no will power and no force. In this regard the distinction between these two classes of patients is well markt.

3. Spermatorrhea does not usually lead to impotence, while pollutions are liable to. In regard to sexual potency and the capacity for coitus there is an exceedingly great difference between the two diseases. The spermatorrheic is capable of coitus. In the lighter forms of disease his copulative powers are practically unimpaired; possibly the ejaculation may take place a little more early than normally, and this is due to the inflammatory condition of his urethra and to a lack of tenacity in the opening of the ejaculatory ducts. But taking everything into consideration he is without doubt a man, with virile sexual powers and enjoying the pleasure which coitus brings in probably as great a degree as formerly. In the more advanced types of the disease the patient's erections may, perhaps, not be so good. He may find that the gauduim coitus is not as keen as it was before; he is not as eager for the fray, and he may also notice perhaps that his ejaculation is a trifle too rapid and the duration and amount of pleasure curtailed by the rapidity of the act; still he is capable of efficient coitus, and many a man suffering from this class of disease is a happy father. So far as the partner of his joys is interested, she probably notes very little, if any difference between the past and the present, for few women, so far as this act with such men is concerned, are very observant: intercourse with them becomes a duty to be performed, and it is seldom that there is much pleasure attacht to it, and, of course, the shorter the copulative act in the male, the less the pleasure in the female, and the more perfunctory becomes the act on her part.

Now, let us see what happens with the pollutionist. He, unlucky wretch, cannot get an erection, and if he does, it is such a feeble, trifling affair as to hardly be dignified by the name of erection, and what makes his disease peculiarly aggravating is that while he has a flabby turgescence of the penis, in lieu of the normal erection, he has also more or less of the libido sexualis libido sine potestate; he wants coitus and he cannot get it, for his membrum virile is of no use except for urinal purposes, and to cap the climax, the more the desire the greater the seminal loss.

With this condition, very naturally, an intense melancholy ensues. The patient oftentimes can hardly behave himself decently. He is irritable, has no appetite, he cannot sleep, in fact, he is a wreck; a curse to himself, a trial to his wife and a bore to his neighbors, who find it difficult oftentimes to put up with his vagaries.

4. Now let us watch the result as these two diseases progress. The spermatorrheic usually recovers; especially so if the form of his disease be that of defecation and not of urination. The urinary type of the disease is usually more obstinate and takes longer to recover from. The patient's condition does not end in impotence, or very rarely so, altho, of course, it is quite possible that this disease may be associated with seminal pollutions, but then he is suffering from another disease and not from his original one, when he goes thru the various stages and presents the various symptoms which the pollutionist exhibits. Under these conditions he may become more or less impotent, but I am perfectly satisfied, from a fairly extensive acquaintance with and observation of this type of patient, that this does not as a rule occur; with the pollutionist it unfortunately does; he becomes not only sexually, but mentally and physically, impotent.

A man may suffer from spermatorrhea without being aware of it, but he never suffers from seminal pollutions, without knowing it. Many a strong, healthy man, if continent, will pass spermatozoa in his urine, and since I have begun to study these forms of disease more carefully I have been peculiarly struck with this fact. Occasionally patients tell me that they had periods when the head aches a little, and they have a feeling of depression for no earthly reason, or as they style it, the "blues;" they do not feel quite up to the mark, a condition for which they can offer no explanation, and they are not quite as ready with their work, or as bright in their wits when this occurs, as usual and in getting them to send me a specimen of urine, when such a condition of affairs obtains, I have been surprised, more so in my earlier days than now, to find spermatozoa in the urine. Now the opposite obtains with the pollutionist. He is aware not only that he is not up to the mark, but that he is decidedly below par, and he stays there. He does not recover as the other man does, and he notices, moreover, that his virile powers are not good, that his erections are flabby and that the slightest friction of genitals against his clothing, or the slightest sexual thought will produce a flabby erection with leaking of what he believes is semen; and nine times out of ten it is a seminal loss.

5. The spermatorrheic is subject to noctural emissions, as healthy men are, and if the disease be slight his emissions are like those of other men. He wakes up immediately after or during the emission, and on finding out what the matter is he gives it no other thought than a feeling of regret that it should be another instance of "Love's Labors Lost." But the pollutionist does not have nocturnal emissions, in the correct sense of the term. True, he finds the evidences of a seminal loss upon his night clothing, in the shape of the stiffened linen, and other tell-tale marks, but it has not awakened him, or, if perchance if he does awake, he finds he is having or has had his emission without any erection whatever (unless possibly there may be a flabby and feeble attempt at one) and in the morning he arises without any erection to greet him. With him the penis is as quiet and dead as Caesar; whereas, the spermatorrheic rises with all the evidences of virility upon him and rejoices to think that he is yet a man.

SARCOMA TREATED BY EXCISION AND SUBSEQUENT USE OF THE X-RAY.

BY T. K. HOLMES, CHATHAM, ONT.

The varied and somewhat conflicting views expresst by writers as to the utility of the X-rays as a therapeutic agent are such as have characterized the introduction of many other new remedies. Enthusiasts are apt to overestimate the value of new remedies whilst the more conservative often err in the opposite way. A sufficient number of cures of lupus and of some forms of epithelioma has been reported by trustworthy writers to establish the value of this agent; and anyone who adds to the accumulating facts as to its efficacy in other forms of malignant

disease performs a useful service. This belief encourages me to report the following case:

J. R., aet. 44 years, farmer, married and father of several healthy children. His family history is good and his personal history excellent until one year ago. Twelve years ago he noticed a small tumor as large as a bean on the skin of the abdomen at a point on the left side corresponding to McBurney's point on the right side. No change in the size or appearance of this little lump occurred until about the first of January, 1902, when it began to increase in size and in three months was as large as a small hen's egg—when it was again removed by the knife. Recurrence soon took place and the growth was more rapid than before. His medical attendant referred him to me on the 15th of September when he presented the following appearance:

A man of rather strong build, not emaciated but of a strongly cachectic appearance, the skin being pale and the lips almost colorless. He was easily fatigued, short of breath on exercise, appetite and digestion fairly good. Examination of heart, lungs and urinary apparatus was negative. Examination of the abdomen showed a tumor elevated above the surface of the skin four and one-half inches and measuring seven inches from above downwards and five inches laterally. It was movable to a moderate degree and the most prominent part of the tumor presented an ulcerated surface as large as the top of a large teacup. It bled freely on removing the dressing and emitted a very offensive odor.

On the 20th I removed the entire mass by an elliptical incision extending across the abdomen from near the left anterior superior spine of the ilium to a point two inches to the right of the median line extending down to but not thru the peritoneum. The edges of the wound were approximated by silk-worm gut sutures placed closely together and the surface dresst with sterile gauze. Tension on the stitches caused several of them to cut out and at the end of ten days when the dressing was removed union was not complete at these points and several small places healed by granulation.

Four weeks after the operation he was removed to Blenheim (about twelve miles) and placed under the care of Dr. Langford, who gave him daily treatment by the X-rays for about two months, and for another month he was treated two or three times a week. The rays at no time were used long enough to burn the skin. There has been no return of the growth and the patient's general health has steadily improved until at present he insists that he is perfectly well.

Microscopical examination proved the tumor to be sarcoma. While only a short time has elapst since its last removal the fact of its rapid recurrence on two former occasions leads to the hope that the cure may be permanent. The first and second operations were performed by Dr. Oliver of Merlin, a thoroly competent surgeon, so that the present favorable condition of the patient must be attributed to the use of the X-rays following the third operation.

IS THE USE OF THE ANGIOTRIBE JUSTIFIABLE IN APPENDECTOMY? WHEN SHOULD AN ATTEMPT BE MADE TO GET THE INTESTINAL TRACT IN ACTION AFTER AN APPENDECTOMY?

BY H. J. BOLDT, M. D., NEW YORK CITY,
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The angiotribe has been used frequently to clamp off the appendix instead of using a ligature and inverting the stump, and thus far no disastrous results have been reported, so far as I know. It is therefore opportune to place on record a case which terminated fatally.

Further, the second question is also of importance, in view of the fact that some operators make use of enemata and cathartics within 24 hours after an appendectomy.

The instance in which a fatal termination resulted is briefly that of a patient upon whom an abdominal section was done for other purposes and she also had a chronic catarrhal appendicitis, for which the appendix (with the mesoappendix) was clampt off with an angiotribe, the instrument being left in situ for five minutes before it was removed—a procedure which had been used very often by me during the past two years without any bad results.

My customary rule is, on patients upon whom I do an appendectomy, not to make an attempt to move the bowels until three days after operation. In this instance the house-surgeon unfortunately followed a plan, which at times is made use of by some of my colleagues, and ordered enemata for the patient about 12 hours after operation. A few hours subsequently the patient showed the peritoneal irritation and within a day she showed the evidence of peritonitis, from which she died five days later. Believing that the enema had caused the peritonitis by making the appendical opening pervious again, I procured an autopsy, which revealed the correctness of my suspicion.

The deductions are obvious: Both procedures (1) the use of the angiotribe and (2) the too early use of enemata after appendectomy are not good judgment Undoubtedly, had the plan not to move the bowels for three days been adhered to, the result would have been as favorable as in all previous instances. On the other hand, had the typical operation been done, then the enema would not have been so likely to cause trouble.

The case is reported because it is from the errors of others that the profession can learn more than from the good results, especially when the circumstances are as plain as in this instance. From this experience I must condemn the angiotrible for such purpose as clamping off the appendix, an operation especially popular among our confreres in France.

OPERATION FOR ADENOIDS.*

BY W. FREUDENTHAL, M. D., NEW YORK CITY,
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Recognition of hypertrophy of the pharyngeal tonsil is usually easy. By digital examination alone has it been made possible without any special skill to generally recognize the hypertrophy of the pharyngeal tonsil so very frequent among children. Surgical operations with cutting instruments in place of the inconvenient and difficult galvano-cautery operation has opened the therapy of this affection to the whole medical world. It is important that this has been accomplisht, since no single affection in the whole domain of medicine and surgery has so far-reaching an influence on the public health as these "innocent little overgrowths," as Dr. Francis has called them.

While normally with the establishment of puberty an atrophy of these glands sets in before that time they may cause an immense amount of trouble by obstructing the most important part of the respiratory tract: the retropharynx, as well as by their secondary implication of the middle ear. And the extent of their prevalence is almost startling! It is now indeed a difficult matter to find a city child without more or less adenoid growth in the retrophrynx—a condition of grave importance in regard to the future of tuberculosis. Kindergartens are indeed "gardens" for the propogation of these growths; Froebel would turn in his grave if he could see the unhygienic methods we apply to the growing generation!

If then they are so numerous and so dangerous what can be done for them after they are well developt? Removal by operation constitutes the only rational treatment; and it should be done early. I have operated upon one child seven months old, but do not like to subject a patient under two years of age to operative treatment.

In the selection of our cases we should remember the warning of Wright: "Many a pharyngeal vault is scratcht because it contains a perfectly normal amount of lymphoid tissue, and the child is really suffering from the vasomotor results of too much candy on the stomach, or of too much clothing on the back, or of too much coddling in steam-heated houses." While it is perhaps true that enthusiasts have operated needlessly in many instances, it is especially true that there are thousands of cases where we absolutely have to remove the adenoids. When a child is brought with adenoids which even only partially close up the choanae, or where an affection of the ear coexists (not to speak of all the other well-known lesions that occur as sequelae of adenoids), I advise the parents that an operation is absolutely necessary and that its omission is a very risky and perhaps dangerous matter for the child's health.

THE OPERATION.

When we do operate, we must not forget that we have here to deal with a field that is already infected. No amount of antiseptics will do any good in these cases; but they are liable to do harm. My views on this point have not changed for the last fifteen years, viz.: that a strict antisepsis in rhinological work is impossible and unnecessary. And this is much more true of the retropharynx than of the nose. To wash out the mouth and

*Extract from paper read before the American Medical Association.

throat with any antiseptic solution will be found bacteriologically entirely useless. The contact of the fluid with the mucous membranes is too short to kill even one bacterium. To wash the face of the child with an antiseptic or alkaline solution before the operation is playing with antisepsis, and syringing the nose before operation is dangerous.

For general anesthesia I invariably use chloroform, and am glad to be in accord with Sir Felix Semon and W. Williams. The few times I have given ether or ethyl chloride I was not pleased with the narcosis.

In what position shall the patient be placed during the operation? For several seasons, i. e., from 1887 to 1893, I used the upright position. I have given it up again, because in older children it is not very convenient; secondly, because I encountered a few times unpleasant accidents which were due to the upright posture. I remember one case, a boy of 14, without any cardiac lesions, whose breathing stopt for awhile, the pulse became very feeble and I had to work for about two hours in order to thoroly restore these functions. Similar, tho not markt, accidents have happened in several other instances, so that I came to the conclusion that the danger of anesthesia in the upright position was well founded. Nor do I favor the so-called Rose's position, i. e., with the head of the patient drawn over the edge of the table and bent well back; I am under the impression that the severe hemorrhages that have followed operations in this posture were indirectly caused by it: the surgeon is more apt to cut deeper into the normal tissue and wound a larger vessel, as the parts are more exposed.

Without any previous preparation, as douching or syringing, etc., my patient is put up on a table, lying on the back, the head not being raised and only a small pillow placed under it. The chloroform is given "slowly and cautiously and not pusht to the abolition of the cough reflex which protects the larynx against the entry of blood." The operation is then performed thoroly —which means all pathologic growths are removed, and not a particle more. One should "shave the surface clean" and no more. The attempt to remove all adenoid tissue will only be made by those who forget that we normally have and need such tissue. I have seen the operation done so "thoroly" that I was convinced that the greater part of th mucous membrane was removed at the same time. On the other hand, there is often found a mass of thickened tissue at the lower edge of the growth, just below the velum, and I agree perfectly with French that this should always be well removed. A failure to do so is invariably followed by incomplete restoration of nasal breathing.

AFTER-TREATMENT.

As mentioned above, no preliminary antiseptics are used. If the patient bleeds during the operation and the blood flows thru the nose and down the pharynx, this is the best "antiseptic" we could wish for. At the same time the flow of blood brings away masses of pus and purulent matter that have accumulated there for long periods. My after-treatment consists in keeping the child quiet for a day or two and giving it a carefully selected diet.

Now, some children will not lose their nasal or post-nasal catarrh after the operation, and the most important after-treatment has to commence then. I prefer to perform these operations in the spring, so that the children can stay, if at all possible, a few months in the country, preferably in the mountains. I have had excellent results in such cases, altho naturally I have had to operate during all seasons, and with good results, too. In other instances, we have to treat the nasal catarrh systematically. If this be neglected, and it is neglected often, then a relapse of the adenoids will surely follow; in six months or a year we will have the same amount of adenoid tissue as before, in spite of the fact that they had been removed thoroly.

THE ADVANTAGES OF THE VAGINAL OPERATION IN OBESE PATIENTS.*

BY W. H. HUMISTON, M. D., CLEVELAND, OHIO,
Professor of Gynecology in Western Reserve University.

The assurance and skill which an operator acquires by following in any one condition a certain method of operation and technic might be commended, provided all his cases approach an ideal. However, this is far from any one's experience.

The popularity of the vaginal route for hysterectomy which is steadily growing among American surgeons has not reacht its height with me. However, I do find in certain cases the method to be, if not ideal, at least expedient. I refer particularly to those cases in which excessive deposits of adipose tissue thruout the body are a sure indication of lowered vitality and lessened power of resistance to shock and to sepsis.

My early experience with this class of cases was very unhappy, and I have welcomed the simplification of the technic of vaginal hysterectomy by a bi-section of the uterus as a fortunate advance in modern surgery.

ADVANTAGES.

The value of the vaginal operation in those cases where general physical conditions would make one hesitate to advise an abdominal section is apparent, especially in the two following groups:

1. The length of time in which the patient is being subjected during an operation should always be considered as a factor against the employment of the unessential elements of technic. The longer the time of operation the greater the depression, the larger the amount of anesthetic, the longer exposure, the more handling of parts which must necessarily give an increast reflex action occasioning shock.

2. In thick belly walls the difficulty in which the pelvic organs are brought into the wound necessitates more or less bruising of the wall—a source of danger to infection. The poor blood supply of fatty tissue is another element of risk in the proper repair of a wound.

The contra-indications to any vaginal procedure excepting merely for drainage of an abscess cavity is the presence of adhesions above the brim of the pelvis.

In the case which I am about to report, however, the general condition of the patient was such that notwithstanding the evidences of adhesions outside of the pelvis, hysterectomy was performed by the vaginal route with a very satisfactory recovery, whereas the result, I am sure, would have been disastrous had an attempt been made to remove the diseased organs thru an incision in the abdominal wall.

REPORT OF CASE.

Mrs. E. S., aged 33 years, married for the second time, three years previous; had given birth to three children, of whom the youngest was 15 years old; no miscarriage nor puerperal fever following any of her confinements; early menstrual history negative. After the birth of her second child she suffered greatly from dysmenorrhea, flowing at irregular intervals and usually in profuse quantity. Five years ago she had severe hemorrhages from the uterus and was curetted. She was entirely relieved for some months, but gradually the conditions returned and she has been practically flowing now more, now less, ever since.

In June of 1901 she was again curetted with temporary relief; since this last curettement she suffered intensely at times and noticed that a swelling in the lower part of the abdomen which she first discovered in 1900 was steadily developing. This, upon examination, however, proved to be only adipose tissue in the belly wall. The uterus was greatly increast in size and immovably fixt in retroversion—large inflammatory masses were found in each lateral vault of the vagina.

On Feb. 19, 1902, after curetting and thoroly disinfecting the whole uterine cavity, I proceeded to the removal of the uterus and its diseased appendages by vaginal hysterectomy—bisecting the uterus and applying clamps to the broad ligament. The walls of the uterus were much thickened and fibrous, and there were double tubo-ovarian cysts or old abscesses with exceedingly dense adhesions to adjacent structures. Fingers of omentum and a coil of intestine were freed and returned to the abdominal cavity and the pelvis and vagina were packt with sterile gauze.

Only six drams of chloroform were administered for a few minutes short of one hour. The time required for the hysterectomy itself was 35 minutes.

The clamps were removed in 48 hours and the last of the gauze in the pelvis on the eighth day. The patient was out of bed on 22d day following her operation, the vault of the vagina being perfectly closed and seemingly firm.

This patient, whose height was 5 feet 7 inches, weighed 281 pounds. She was extremely anemic and cachectic with a pulse of small volume, low tension, irregular and arrhythmic and averaging about 110 per minute.

At no time following the operation did I feel a bit anxious as to the outcome, and yet never did I have so unpromising a case.

*Read at the Ohio State Medical Association.

THE SUCCESSFUL TREATMENT OF LEG ULCERS.

BY L. H. WARNER, A. M., PH. G., M. D., NEW YORK CITY.

In citing my observations and experience in a series of cases of ulcer I deem it advisable to mention a short review of the pathology of ulcers. Inflammation always precedes ulceration; and under the term inflammation we designate the vascular exudative and regenerative changes which occur in living tissue, resulting from chemical, mechanical or thermal agents. The primary effect of inflammation is tissue degeneration, exciting secondary proliferation followed by necrosis. Cell degeneration is followed by vascular disturbances and cell-emigration. Should the irritant act thru the blood then vascular disorders precede tissue change. The destruction of cells may be caused thru micro-organisms or thru toxines liberated by the latter. Disturbances of metabolism may also alter cellular processes to occasion irritating and chemotactic products. Inflammations may be classt as follows:

1. Edematous or serous inflammations;
2. Fibrinous inflammations;
3. Suppurative inflammations.

It is in the latter condition—when pus is formed—that entrance of suppurative bacteria by contact takes place, and then the suppuration of inflammation is termed abscess. Suppurative inflammation with erosion of areas of the skin or mucous surface occasions ulcers. Histologically ulcers are of the same construction as the walls of an abscess. We classify ulcers as phagedenic ulcers (rapid destruction of tissue—large and spreading); serpiginous ulcers (extending in one direction and healing in the other); and indolent ulcers (unhealthy, rapidly granulating, and showing little tendency to heal). It is with the latter class of ulcers I had to deal while devoting my time to the study of the pathological lesions of the blood and of the treatment in the cases herewith cited.

Receding some 30 years: we treated ulcers as pathological lesions not knowing what etiological factor had to be conquered in order to insure successful treatment of the cases. Not until the advent of bacteriology were we able to determine the destructive factor and not until then did we realize the advantages of antisepsis. This department of medicine, like other arts and sciences, followed on the paths of investigation and on a later date we had the great savant Metchinikoff of Paris enlighten us with the function of the leucocytes. (Phagocytosis). This latter discovery is one of the most extraordinary of the Nineteenth Century. From this time on advances were made in the departments of biology, hematology and physiology, not omitting pathology and bacteriology, until today these sciences have become important factors not alone in the diagnosis of disease; but they also are of great service in establishing the probable prognosis, as the treatment is altered or continues. Thus in the cases reported herewith I also cite the findings of bacteriological and hematological examinations. I give the history of a few cases of indolent and tubercular ulcers which have been under my observation for more than a year and which responded but little if any to routine treatment, until a modern pharmaceutical product known as ecthol effected complete recoveries. The happy combination of echinacea augustifolia and thuja attracted my attention to ecthol; and when I subsequently heard thru some of my colleagues that they obtained most remarkable results from the use of ecthol in the treatment of furunculosis, I reasoned that ecthol might be useful in the treatment of abscesses and ulcers, hence the series of investigations.

Case 9437: Charles McC., age 41, applied at clinic in January, 1901, exhibiting a large ulcer on left foot, size 1⅛ by 2 inches. Patient relates that the edge of a dry goods box cut his shoe and produced a wound which began to fester altho he used various antiseptic dressings. The area of ulcer became more inflamed and larger. Patient applied again at clinic when microscopical examination and subsequent laboratory culture of bacteria in pus revealed presence of streptococcus, bacillus proteus vulgaris, micrococcus pyogenes and bacterium pyocyaneum. Patient was unable to move about unaided and was placed in hospital ward. Ulcer was cleansed with solution of carbolic acid, dusted with aristol and dresst with sterile gauze. Blood examination revealed a pronounced anemia. Little progress was noted in this case up to March, 1901, when treatment was changed to ecthol in one teaspoonful doses every four hours and application of ecthol on lint to ulcer; dressing to be changed morning and night. No other antiseptic was used—only bathing ulcer in water and castile soap. At this time the ulcer measured 1⅞ by 2¼ inches. After several weeks' treatment with ecthol healthy granulation around edge of ulcer appeared. Blood examination in April revealed:

Hemoglobin, 60 per cent, red cells, 3,105,000, white cells, 13,100. A glance at microphotograph reproduction of the blood exhibits: (1) multinuclear polynuclear leucocytes, some disintegrating, some neutrophilic; (2) also some aged myelocytes, presenting a blood picture as found in inflammatory leucocytosis. (The disintegration of aged leucocytes favors pus production). From now on we note that every day brought improvement in the patient and on May 21st ulcer was healed completely and patient felt well enough to be discharged.

The success in this case is absolutely due to the anti-purulent and reconstructive properties of ecthol. The patient's blood has been examined weekly since entering the hospital, during which period I noted that on 10 days during which the patient stopt the internal use of ecthol, less progress was made than when both internal and external medication with ecthol were employed. On May 20, 1901 (the day prior to leaving the hospital), blood examination revealed: hemoglobin, 83 per cent, red cells, 4,120,000; white cells, 7,900. The red cells were well formed, filled with hemoglobin, and the leucocytes appeared as active lymphocytes and a few eosinophiles (see blood illustration.)

Case 9487. Anna S., age 27 (domestic) had been ailing more or less for one year, lost considerable in weight. Exhibited an ulcer 1⅝ by 1⅞ inches on lower right limb. Was admitted to hospital on March 10, 1901, and placed on pil. ferrug. (Blaud), special diet and ulcer bathed in corrosive sublimate solution 1 to 5,000; after which aristol dressing with gauze. Microscopical examination and bacteriological culture of bacteria from pus of ulcer revealed presence of bacillus tuberculosis, streptococcus, staphylococcus, micrococcus pyogenes and smegma bacillus. The blood examination showed an anemia. Patient had no cough and physical examination failed to reveal anything but localized tubercular infection. In this case little progress was noted, altho the dressings of the ulcer were frequently changed, resorting to iodoform, nuclein, carbolic acid, etc. Iron tonics were also tried, mainly the various pepto-manganates.

Noting the exceptional good results from the use of ecthol in case 9437 this patient was ordered ecthol internally and a local dressing with ecthol and gauze; a teaspoonful dose was given every four hours. May blood examination revealed:

Hemoglobin, 39 per cent, red cells, 2,650,000, white cells, 22,700. A noted improvement was observed within three weeks, during which time the hemoglobin increast 12 per cent and healthy granulation appeared around edges of the ulcer. Bacteriological examination of exudate from ulcer showed no tubercle bacillus. On June 3, the ulcer had completely healed and patient felt well enough to be discharged with the advice to continue teaspoonful doses of ecthol three times daily for some weeks. Blood examination revealed: hemoglobin, 67 per cent, red cells, 3,830,00, white cells, 9,000. The red cells were well formed and filled with hemoglobin, the white cells consisted of active young lymphocytes and a few young mononuclear leucocytes.

The above cases cited are the severest two cases selected from 10 cases of indolent ulcer upon which the efficacy of ecthol as an antipurulent, reconstructive remedy was tested with most gratifying results. Every one of the 10 cases recovered completely. My success with ecthol has led me to investigate its value in the treatment of eczema and as far as I have gone I feel satisfied with the results.

DIAGNOSIS OF CHOLELITHIASIS.*

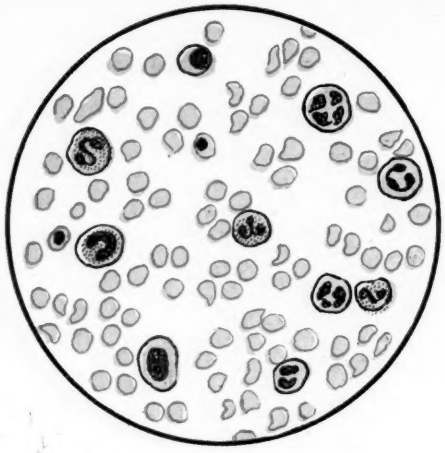
BY JOHN B. MURPHY, A. M., M. D., CHICAGO, ILL.,
Professor of Surgery in Northwestern University.

In accepting the invitation of your president, Dr. R. F. Weir, to participate in this symposium, I fully appreciated the compliment paid me and realized that there was little new and interesting to be said on the subject.

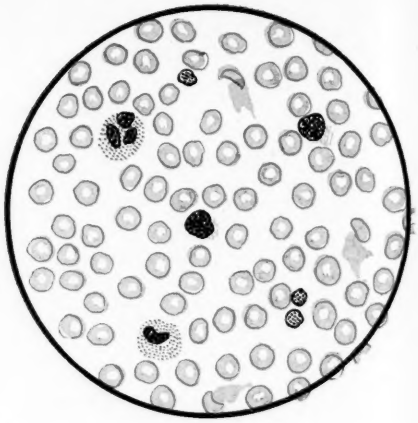
I shall confine my remarks, therefore, to the diagnosis of various conditions induced in the biliary tracts by choleliths and pathogenic flora, either separate or combined, and attempt to associate particular symptomatic cycles with definite pathologic lesions, based on my experience in 334 cases of gall-bladder and liver disease.

It will be unnecessary for me to dwell on the diagnosis of cholelithiasis manifested by the classic and well-recognized symptoms—colic, nausea and vomiting, local sensitiveness and icterus—all of which appear in the order mentioned and disap-

*Read before the Surgical Section of New York Academy of Medicine, Dec., 1902.



Case 9437. January, 1901.



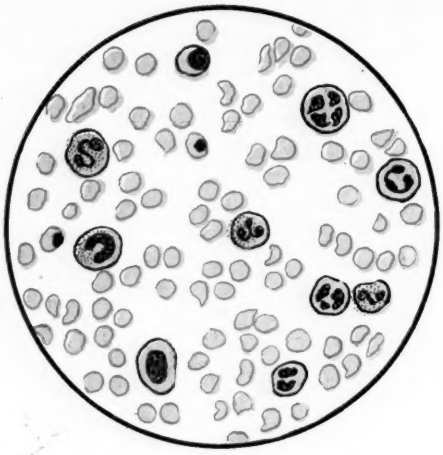
Case 9437. May 20, 1901.

Explanatory Table to Blood Charts.

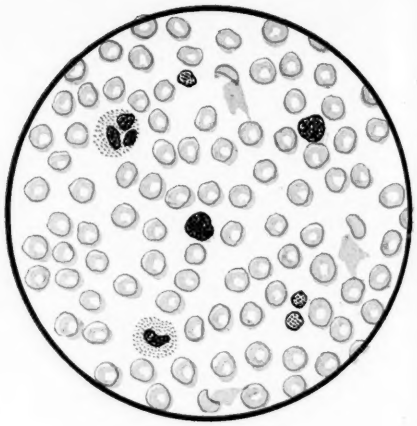
	Breaking red blood corpuscle, known as blood placque.
	Normal red blood corpuscles.
	Nucleated red blood corpuscles.
	Red blood corpuscles poor in size and form.
	Lymphocytes, young white corpuscles.
	Mononuclear Leucocytes, young and old.
	Polynuclear Leucocytes, multinuclear.
	Polynuclear Leucocytes, neutrophilic.
	Polynuclear Leucocytes, basophilic.
	Eosinophiles, single and multinuclear.
	Eosinophile, breaking.

Explanatory Table to Bacteriological Charts.

	Streptococcus pyogenes, always appears in chain form.
	Bacterium putidum, sometimes with flagellæ.
	Staphylococcus pyogenes, from abscess.
	Bacterium pyocynæum, green pus bacillus.
	Bacillus proteus vulgaris, from fistula.
	Bacillus tuberculosis, from tubercular abscess.
	Smegma bacillus, from stomach contents.
	Bacterium coli commune, from stomach contents.
	Diplococcus lanceolatus, from pus (abscess).
	Micrococcus pyogenes, from ulcer.
	Sarcinæ, from stomach contents.



Case 9437. January, 1901.



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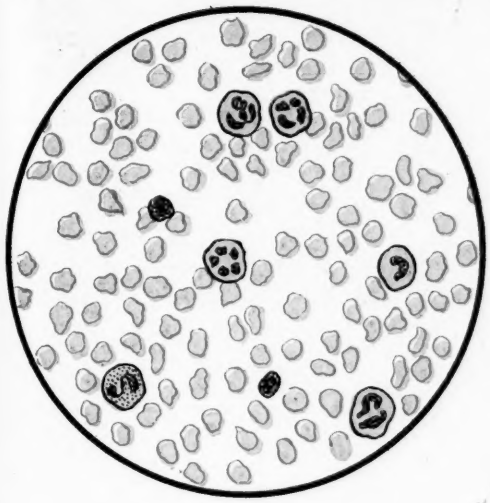
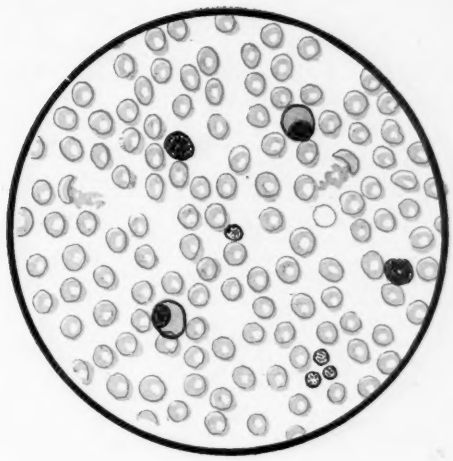
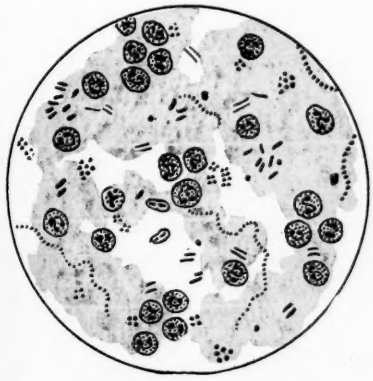


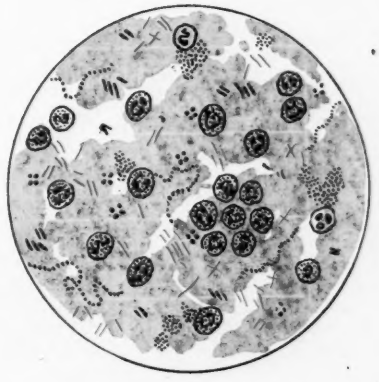
Case 9487. March 10, 1901.



Case 9487. June 3, 1901.



Case 9437. April, 1901.



Case 9487. May, 1901.

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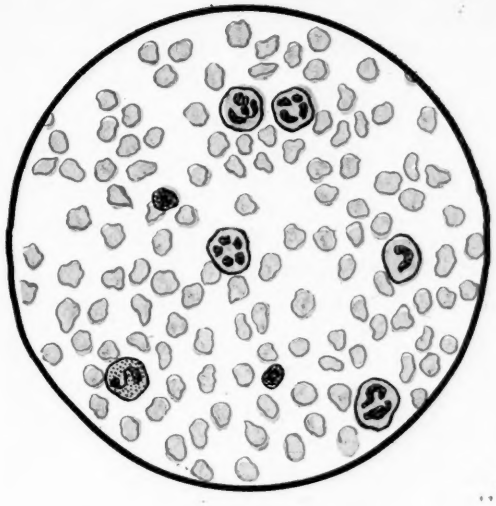

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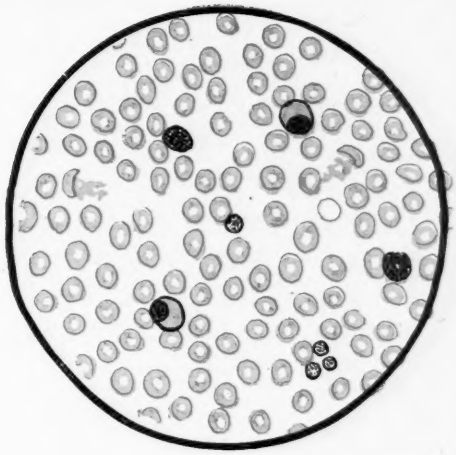

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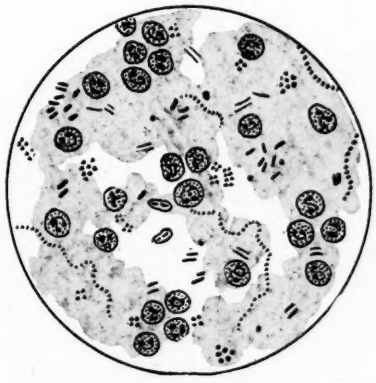

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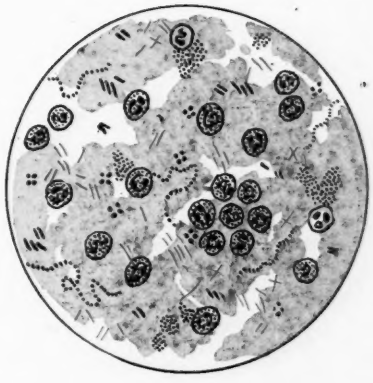

Case 9487. May, 1901.

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pear within a few days. These cases have been diagnosticated for centuries. The deviations from the usual course are many, pathologic processes varied and the ultimate result dependent upon diverse conditions. This can best be appreciated by a careful study of Courvoisier's collected cases with the varied clinical courses, pathologic manifestations and post-mortem findings. (Publisht in 1890.)

A few words concerning the symptoms themselves may not by out of place before beginning the analysis of the symptom complex of stones in the various positions of the biliary tracts.

PAIN—This may be classt as: first, the acute inflammatory or infective type, which occurs in virulent infections and is accompanied by involuntary muscular contraction (protection) of the organ or tissue in which it is situated. Second, the aching, cumulative, tension type, which is not guarded by abdominal tension, but is defended by sudden muscular contraction when pressure is made upon the distended viscus, The most characteristic reaction in this type of pain is that elicited by pressure applied beneath the right costal arch when the patient makes an effort at deep inspiration. The third type is the referred ache or pain which accompanies either of the preceding types; in this there is neither sensitiveness to percussion nor to pressure at the point to which the pain is referred. In obstruction to the pelvis of the gall-bladder or cystic duct, the pain is referred—on an average of seven cases out of ten—to the right subscapular region, in one to the left subscapular region, and in the other two varying from the precordia on the left to the subclavicular region on the right of the sternum and up the neck. In all there is a local pain in the gall-bladder region, extending toward the left to the epigastrium. These figures are based upon repeated soundings and irritations at these points after cholecystotomy.

COLIC—Colic, as used in connection with this subject, has an entirely different significance from the term pain, as used above. It is pain, but of a distinctly rapid, intermittent or remittent, spasmodic type. It occurs when a foreign body is being transmitted thru a canal, the lumen of which is normally smaller than the diameter of the foreign body. It is never due to the over-distension of the gall-bladder and never due to the retention of bile or mucus under pressure. If the foreign body becomes stationary in the duct beyond a few hours, the colic ceases so long as the stone does not advance. It is therefore due to a foreign body in transit thru the ducts. The contraction in the duct wall has been demonstrated to take place one-half to one centimeter from the foreign body, on the hepatic side of the foreign body, when it is in the common duct. The colic is supposed to be due to this muscular contraction. We know colic in intestinal lesions is due to muscular spasms. The colic is not due to inflammation of the gall-bladder, notwithstanding Kehr's and Herrick's support of that theory. It is absent under two conditions: first, when the foreign body is too large to be graspt by the canal, as in the case of stones over one-half inch in diameter, and second, when they are too small to produce a spasm of the duct in their passage, as the granules frequently found in the sifted stools of cholelithic patients. The large calculi found in the common and cystic ducts are advanced to these positions thru accumulative pressure behind, rather than by spasm of the muscular fibres. There has not been demonstrated, to my knowledge, a peristaltic wave in the biliary ducts.

Colic does not occur in obstructions of the ducts from catarrhal or infective edema of its mucosa, nor from obstruction by pressure of neoplasms in the walls or neighborhood of the ducts, nor from cicatrical occlusions nor obstructive flexions of the ducts. Colic is therefore absent in every type of biliary obstruction except that of foreign bodies—calculi, echinococcus, ascarides, clumps of mucus, polypi, etc.

The duration of the colic depends upon the length of time the foreign body is moving thru the canals. It may cease to advance in the canal, in the pelvis of the gall-bladder, in the ampulla of Vater or in the dilated condition of ball-valve formation and diverticulum development, and remain there for months or years, without producing colic; but as soon as it moves forward in the ducts, there is a recurrence of the spasm. The same is true after cholecystotomy, when the stone moves backward in the cystic duct into the gall-bladder.

THE NAUSEA AND EMESIS—These symptoms of biliary obstruction are reflex symptoms, the same as the nausea and vomiting of the obstructed appendix or the obstructed ureter. They may be short in duration or they may contihue during the entire period of acute obstruction. By their relaxing effect, they favor the dropping back of the stones into the gall-bladder, in obstruction of its pelvis, and often terminate the attack—the so-called "vomiting of gastralgia." The vomiting may last from a few minutes to several hours or days, resembling that of mechanic intestinal obstruction.

There is a second variety of reflex vomiting due to torsion, flexion, or valve obstruction of the cystic duct; in this class, the vomiting continues for days, with no severe pain and no colic, and is relieved by liberation of the obstruction, and the escape of the gall-bladder contents. When the abdomen is opened for this condition, the gall-bladder is usually enlarged and not compressible. It is filled with mucus and grumous bile, but there is no pus. This is a typical reflex phenomenon, and of the recurrent type. The vomiting resembles that of pyloric obstruction of acute character, and may be so severe as to border on dissolution. I recently operated on a case of this character for Dr. Alex. C. Wiener, the patient making a rapid recovery. The gastric crises of tabes, with or without pain, are often mistaken for gall-stone attacks but can easily be differentiated. The cure is usually permanent by the fixation of the gall-bladder, favoring a permanent and efficient drainage. (Mayo.)

HYPERSENSITIVENESS—This sign of gall-bladder disease is present in all varieties of infection and calcular obstruction, but not in the neoplastic, torsion, flexion, cicatricial or valvular obstructions. The hypersensitiveness is elicited by deep palpation just below the right ninth costal cartilage, or in a line from that point to the middle of Poupart's ligament, as this is the common tract of gall-bladder enlargement. Deep percussion along the same line, with patient in forced inspiration, gives pronounced pain.

The most characteristic and constant sign of gall-bladder hypersensitiveness is the inability of the patient to take a full, deep inspiration, when the physician's fingers are hookt up deep beneath the right costal arch below the hepatic margin. The diaphragm forces the liver down until the sensitive gall-bladder reaches the examining fingers, when the respiration suddenly ceases as tho it had been shut off. I have never found this sign absent in a calcular or infection case of gall-bladder or gall-duct disease.

FEVER—The temperature in biliary infection is very characteristic, almost to a pathognomonic degree; and still more, it has variations peculiar to infections in various positions—in the gall-bladder or the ducts. I shall not go into the details of these variations here, as they will be considered under the different types of infection. I wish only to emphasize the peculiar angularity of the temperature, and the duration of the complete intermissions, in both of which characteristics it varies from the curves with remissions found in other types of infection.

TUMOR—In upwards of 80 per cent of cholelithiasis with jaundice, Courvoisier found the gall-bladder contracted. Therefore, in four-fifths of all the cases of cholelithiasis, we should expect an absence of tumor formation. The greater portion of the 20 per cent in which there was an enlargement of the gall-bladder, was due to impaction of large calculi in the neck of the gall-bladder or in the cystic duct without severe infection, with an occasional impaction in the common duct, under the same circumstances. Where the obstruction was due to other causes, and particularly when associated with jaundice, the same authority found an enlargement or tumor of the gall-bladder in upwards of 90 per cent of the cases. The contraction or diminution in size of the gall-bladder in cholelithiasis is due to infection, infiltration and subsequent contraction. This led to Courvoisier's law, which is—"In 80 per cent of the cases of obstruction of the common duct due to stones, there is contraction of the gall-bladder, while in 90 per cent of the cases of enlargement of the gall-bladder, the obstruction is due to causes other than stone," such as cancer and cysts of the pancreas, pressure from other neoplasms, cicatrices, lymphatic glands (Bremer), pressure on the ducts, torsion, flexion, etc.

The characteristics of cholecystic enlargements are: (1) That they are continuous with the upper surfaces of the liver; (2) that they project sharply from the margin of the liver; (3) that the margin of the liver can occasionally be traced to a gradually diminishing edge attacht to the upper surface of a globular mass. (This last is characteristic of gall-bladder enlargement). The enlargement is often associated with the linguiform elongation of the right lobe.

Therefore, a large gall-bladder is indicative of malignant disease or cicatracial contraction, and contracted gall-bladder indicates a cholelith, in the percentage above mentioned. The contraction of the gall-bladder in gall stones is due to the infection of the gall-bladder with infiltration of its walls and subsequent contraction, the same as we frequently see in the urinary bladder under like pathologic conditions. Altho Ehret and Stolz discredit Courvoisier's law and do not seem to accept this explana-

tion, they both correspond with my own experience. It is equally clear why the gall-bladder should enlarge with non-infective obstructions of the common duct or cancer of the pancreas, exactly as the urinary bladder enlarges from aseptic compression in prostatic hypertrophy, by producing distension and backing up the fluid.

JAUNDICE—In the cases operated by me, jaundice as a symptom has been absent in 86 per cent of the cases, both in the history and in the patient at the time of admission to the hospital; that is, in only 14 per cent of the patients operated was jaundice manifest as a symptom at any time in the course of the disease. Adelbert Merk found jaundice in 58 per cent of his first 104 cases. The degree of the jaundice depends upon the completeness of the obstruction, and not on the size of the calculus. The degree of obstruction is greatly influenced by the infection of the duct at the seat of the calculus; that is, the obstruction is made up of the mechanical and infectious elements. The inflammatory element can be appreciated by recalling the intense jaundice which may be present in catarrhal inflammatory processes of the common duct. The jaundice is continuous thru the entire course of the disease without even a remission, in malignant obstructions. It is remittent in calcular obstructions, with changes in the degree of the infection, with dilatation of the duct to the condition of ball-valve formation, and when the stone remains for a long time in one situation. While it may be remittent, it is never intermittent while the stone remains in the hepatic or common ducts. It is intermittent when the stone is partly in the common, and partly in the cystic duct; it is intermittent with recurring infections, when the stone is situated in the cystic duct or gall-bladder; and it is intermittent between the passage of stones thru the common duct.

In the relation of jaundice to pain, this law may be formulated: (1) That jaundice due to gall-stones is always preceded by colic; (2) that jaundice due to malignant disease, or catarrh of the ducts accompanied by infection, is never preceded by colic.

GENERAL COURSE.

To simplify the subject of diagnosis, we shall make an excursion with a calculus from its usual place of formation in the gall bladder, thru its neck, thru the cystic, hepatic and common ducts, as well as the enteric tract. The difficulties which we shall encounter in transit will be dependent upon: (a) the size of the calculus; (b) its impaction in the neck of the gall-bladder or the ducts; (c) its course and speed of transit; (d) its arrest within the ducts or diverticula; (e) its escape thru the wall of the biliary tract, 1st, into the peritoneal cavity, 2nd, into neighboring viscera, or 3rd, thru the abdominal wall; (f) added to these are the deleterious effects of a more or less virulent infection induced by a variety of infective flora. From the culture experiments, it is impresst upon us by the overwhelming force of numbers that the bile in cholelithiasis should be considered, from a surgical standpoint, as always infected, and treated accordingly. This statement does not include all cases of cholelithiasis, but only those applying to the surgeon for relief. The tracts of infection are: (a) the portal vein to the liver; (b) the common duct, from the intestine; (c) the splenic vein; (d) the general circulation (this is rare—Remy); and while infective micro-organisms are often present in the bile tracts it requires other conditions to make the bile and the canals good receptive media; the presence of infective fungi is not incompatible with the normal function of the canals.

Calculi may be present for an indefinite period without producing any recognizable symptoms. The records of necropsies show that gall stones are present in from 6.94 per cent (Johns Hopkins Hospital Reports) to 12.2 per cent (von Recklinghausen) of all post-mortems. A very large proportion of these cases presented no symptoms during life, and doubtless in a smaller number of symptoms were present but unrecognized. It is therefore evident that there as special conditions necessary for the development of a symptomatology in connection with gall-stones in the gall-bladder. These are principally: (a) disarrangement of the calculi; (b) impaction in the neck of the gall-bladder and (c) infection of the gall-bladder, with or without impaction.

When gall-stones become disarranged, they are frequently carried with the bile and mucus into the neck of the gall-bladder and, if small, on thru the ducts into the intestine, producing pain, nausea, hypersensitiveness and jaundice; then the attack subsides, to recur at varying intervals.

When a large calculus produces disturbance by impaction in the cervix of the gall-bladder, the symptoms are pain, nausea and vomiting, pronounced hypersensitiveness, particularly when, in the examination, the fingers are hookt up under the liver and the patient attempts to take a deep inspiration; then the pain becomes intolerable. This is the most constant and characteristic symptom; percussion below the ninth costal cartilage on the right side may give pain; there is no jaundice and no elevation of temperature; the attack usually subsides with the emesis, the pain being relieved by the stone falling back into the now globular, over distended gall-bladder, the relaxation occasioned by the vomiting favoring this change of position. So closely is the relief associated with the emesis that patients frequently say: "If I could only vomit, I should be relieved of my gastralgia;" and "gastralgia" is the diagnosis made by the physician in more than 90 per cent of the cases! This is the most common type of cholelithic manifestation, and a single patient may suffer from two or three to as many hundred attacks, before the stone becomes permanently impacted in the cystic duct or a new train of symptoms develops from an intercurrent infection. I have watcht one patient go thru these attacks almost monthly for three years, and another for seven years before consenting to be operated on.

When infection of the gall-bladder takes place, with calculus, the disturbance produced is in direct proportion to its virulence and tension; if mild, it produces a hypersensitiveness, and no pyrexia unless the products of infection are retained in the gall-bladder under pressure by the impaction of a stone in its cervix; then the temperature rarely exceeds 101 degrees. This is a common course in the aged; the pain is pressing, continuous in character, not colicky; a small tumor may be palpable in the right hypochrondrium; there is no jaundice, and the attack is passt thru in six to ten days. When the infection is virulent, the pain is more severe; within a few hours of its onset there is a chill; the temperature usually rises to 102½ degrees or 103½ degrees; the right hypochondrium becomes exceedingly tender; the rigidity of the muscles prevents the palpation of a tumor; nausea and vomiting are frequently present and persistent, and the patient's condition is one of profound depression with infection.

The mucosa of the gall-bladder may become necrotic, and even rupture to form a circumscribed or general peritonitis. I recall a case of this kind which occurred the second day after confinement. The rupture took place into the peritoneum, and the patient died on the sixth day of a general suppurative peritonitis. The cardiac manifestations and anxiety of the patient were such, that the suspicion of angina pectoris was entertained until a few hours before death. The symptomatic manifestations of infectious cholecystitis without impaction of the stone in the neck of the gall-bladder or cystic duct are neither so severe nor dangerous, as when the impaction occurs after a virulent infection. Here the pain is more intense, the chill is usually severe and prolonged and the temperature rapidly reaches 104 degrees to 105 degrees. The vomiting is persistent, and the depression great. Pressure in the right hypochondrium cannot be tolerated, and the patient is intensely ill. So destructive is infection under these circumstances, that the mucosa of the gall-bladder rapidly becomes gangrenous from the biotic and toxic effect of the micro-organisms, and the pressure under which the products of infection are retained.

Three of my most pronounced cases of this type were of monolithic origin, the first operated by me for Dr. Conley under the diagnosis of acute appendicitis; Mrs. C., aged 62 years, weight 260 pounds; liver was enlarged, and the gall-bladder situated in the right iliac fossa, was adherent to the caput coli and small intestine. Its mucosa was gangrenous and the gall-bladder was full of pus, notwithstanding that the operation was done 42 hours after the initial symptoms. A single, pure cholesterin calculus was impacted in the cervix of the gall-bladder; it was easily removed, immediately followed by the discharge of bile, and the patient made an uninterrupted recovery. Case 2 was operated for Dr. Brumback. Mrs. M., age 54; diagnosis, infective cholecystitis; obstruction of cystic duct; operation 62 hours after onset. The entire gall-bladder was gangrenous and came away as a slough the sixth day after the operation, and with it a single, clear cholesterin stone. Recovery followed. Case 3 was Miss F., age 26, patient of Mercy Hospital; operated 41 hours after onset. Gall-bladder gangrenous; portions of it slought, and came away a few days after the operation. Single, mixt calculus. Recovery. In these three cases, there had been no previously recognized symptoms of gall stones. Case 4. Rev. F., aged 58; Mercy Hospital. History of gastralgia for a period of 12 years. The attacks were never accompanied by fever, nor followed by jaundice. The present attack was initiated by pain, severe chill, high temperature and the classic symptoms of virulent gall-bladder infection. Operation 64 hours after onset of symptoms. Mucosa gangrenous in many areas. A large number of calculi were found, one impacted in the cystic duct, and there was a consid-

erable quantity of offensive pus. Recovery. Accurate diagnosis was easily made in the last three cases after the error which occurred in the first. These cases illustrate how rapidly destructive virulent infections of the gall-bladder become under the pressure of accumulating products, with impaction in the neck of the cystic duct.

There is another distinct type of infection of the gall-bladder. It is manifested by recurrent chills, high temperature, with a complete subsidence of the temperature within a few hours. There is absence of pain, no colic, no jaundice, but occasionally a mild discoloration of the sclera; in short, there are no symptoms specially referable to the biliary tracts. These are acute cases, and in all of mine they have been associated with enlargement and edema of the gall-bladder wall. Some have previously complained of an aching sensation in the right hypochondrium, with no pain, and no other noticeable symptoms. These cases are most difficult of diagnosis, and still the few symptoms are sufficiently regular and characteristic to admit of a diagnosis before operating. The attacks come on with severe chill, without pain; the temperature in an hour will rise to 104 degrees or 105 degrees, remain stationary for a few hours, days, or even weeks, when it will as suddenly go thru the same rapid variation, and continue to repeat itself at irregular intervals; all of the time without any special reference in a symptomatic way to the gall-bladder. So pronounced is the chill, and so complete the fever intermission that the most common diagnosis is malaria. These temperature changes are so characteristic that I have given them the name of "The Temperature Angle of Cholangic Infection." The one physical manifestation which was uniformly present in my cases, was the inability of the patient to take a deep inspiration without pain, with the physician's fingers deeply presst beneath the right ninth costal cartilage. These attacks occur with or without stone; more frequently without. I shall cite an illustrative case: Dr. R., aged 39, while en route from Chicago to New York for his summer vacation, was attackt with a severe chill; temperature rapidly reacht 104½ degrees; subsided within a few hours to normal, leaving him a little the worse for his experience; the third day following, he had a similar attack; on the fifth another; and on the seventh, a fourth; he had no pain, and no sensitiveness or soreness in any part of the body. The malaise and depression, following the high temperature, became markt, so he returned to his home in Chicago. Blood examination revealed absence of plasmodia; a hyperleucocytosis of 9200; absence of Widal reaction. Chills and fever now became more frequent, occurring sometimes twice in one day, and then skipping a day or two. The temperature, following each chill, was never less than 104 degrees, and reacht as high as 106 degrees. He became emaciated, sallow, extremely feeble, and death seemed imminent. There was no jaundice, and no symptoms referable to the biliary tract. A careful examination elicited sensitiveness in the right hypochondrium beneath the costal arch on deep respiration. Diagnosis: infection of the neck of the gall-bladder and cystic duct, without calculus. Operation, cholecystotomy, seven weeks after onset of symptoms. The mucosa of the gall-bladder resembled a granulated eye-lid; no pus discernible macroscopically; culture and microscopic examination showed the presence of the staphylococcus albus. The second morning following the operation, there was a recurrence of chill, with temperature of 105 degrees; from that day the temperature remained normal and patient made rapid and complete recovery. The drainage tube was not removed for a number of months, because in the previous case of this character the patient had died on the third day after the removal of the drain and closure of the gall-bladder by suture, notwithstanding it had been draining for three months and all the evidence of infection had ceast—the cause of death was an acute, septic cholangitis, tho the sutures were removed on the second day. I could cite a number of septic cases similar to the above, all without pain, distress or perceptible tumor, but one is sufficient to illustrate the class. In these cases the gall-bladder is not contracted.

Another type of gall-bladder infection may possibly be confounded with this, that is, acute phegmon of the gall-bladder, developing on malignant disease of its mucosa. The onset is severe, followed by chill, high temperature, with or without colic. There is a remission of the temperature, morning and evening, from this time, as in ordinary septic processes, but never complete intermission, therein differing from the temperature angle of gall-bladder infection. After a septic process is inoculated upon a malignant lesion of the gall-bladder, the downward course of the patient is rapid and uninterrupted, the sepsis playing an important role. These patients usually succumb in from three to six weeks.

In syphilis of the liver, the temperature is of a remittent type, and often continues for weeks at a time. It is only occasionally associated with jaundice. It rapidly disappears on mixt treatment. In my early experience I made a section on one of those cases, believing it was calculous disease with infection. The patient rapidly recovered under mixt treatment.

We have another class of cases, the contracted type of gall-bladder with infection, with or without preceding colic, but usually the sequence of primary calculous disease. In this class, the patient has recurrent attacks of chills, high temperature with subsidence, remaining normal from a period varying from a few hours to as many months, when the same symptom-cycle is again passt thru. Here we have also the classic temperature angle of cholangic infections. The gall-bladder is contracted to a teat-like process, indurated, deformed and surrounded by adhesions. A case:—Mr. C., aged 86 years; seen in consultation with Dr. Norman Bridge, of Pasadena, Calif., in March, 1900. The patient gave a history of recurring attacks of chills and fever running over a number of years. The attack would come on every few months, last a few weeks and disappear, to recur, sometimes with regularity, again without. The attacks were never associated with pain or markt sensitiveness, and the patient was never jaundiced. When seen in consultation, he had had two chills within twenty-four hours; following each, the temperature exceeded 104 degrees, and the patient was in a very much impaired condition and had been confined to bed. It was agreed that the cause of the manifestations was a cholecystic infection, altho the only physical sign present was tenderness beneath the right costal arch on deep inspiration, but there was the classic temperature angle of cholangic infection. The operation revealed a gall-bladder not larger than the little finger to the second joint, buried in a mass of adhesions; when opened, its wall was one-quarter of an inch thick, and its lumen contained only a few drops of mucopurulent material. It was incised for its entire length into an occluded cystic duct; a rubber tube was sutured into the incision, as the lumen was so small it would not admit it. Following the operation, the patient had a few chills and high temperature. His temperature the fourth morning was slightly elevated, and from that time his convalescence was slow but complete, and there has been no return of the symptoms, up to August of this year, when I received my last report of the case from Dr. H. H. Sherk, who assisted me in the operation and cared for him afterward. A similar condition, with a history extending over a period of four years and associated with occasional attacks of colic, a mild icterus, and an hour-glass contraction of the gall-bladder was found in the case of General A., operated by me a year ago this month, for Dr. Jennings, at Detroit. It was evident, from the history, that there had been a stone at some time previous to the operation, altho none was found at the operation. The attack of gall-bladder trouble could be distinctly traced to a typhoid which had occurred four years previously. His recovery has been complete. Drs. Jennings and Longyear reported colon bacilli from the cultures from the gall-bladder, four months after the operation.

CYSTIC DUCT OBSTRUCTIONS.

Cystic duct obstructions present a different train of symptoms from those of the gall-bladder, dependent principally upon the size of the calculus. If that be sufficiently small to become engaged in the cystic duct for a short time, the patient suffers colic, nausea and vomiting, local tenderness without temperature, and the attack terminates in jaundice, with sudden cessation of the colic, or with a gradual cessation of the colic and a retention of the stone impacted in the cystic duct. If the stone be large, it may remain in this duct for years and will be followed, as a rule, by enlargement of the gall-bladder and hydrops or empyema, depending upon the type and degree of the infection. If the stone gradually advances in the cystic duct, even when it is a large one, it may do so without colic, but with a constant sense of pressure, pain and hypersensitiveness. A stone five-eighths of an inch in diameter to twice that size, will gradually advance in the cystic duct until it reaches the common duct, and the patients never complain of colic, and never suffer from chills and fever. Infection in this class of cases has been shown by examination to exist below the calculus, but rarely does it extend to the gall-bladder, and once the stone is impacted, it is practically impossible for infection to pass by it into the gall-bladder. If virulent infection surrounds the stone, there will be necrosis and perforation of the duct and usually perforation of the neighboring viscus which becomes adherent to the duct, and the calculus escapes into the alimentary tract.

An unusually large stone may be retained in a diverticulum

or pouch of the cystic duct; in that position it frequently becomes infected and manifests itself by chills, angular temperature, night sweats absent; no colic or jaundice. These symptoms may be repeated for days, and then subside for weeks, the same as in gall-bladder infection.

The manifestations of septic absorption are far more markt than in the gall-bladder. These cycles are not accompanied by pain or colic, and never by icterus, but always by hypersensitiveness in the right hypochrondrium.

When a stone becomes retained in a diverticulum, the virulence of the infection may subside and the patient recover without operation, by the escape of the calculus, or even with the calculus retained in position, but the infection usually recurs. If the quantity of pus discharged from the cystic duct into the common duct from an infected retained calculus be as great as that discharged into the gall-bladder after a cholecystotomy, it is surprising that we do not have more frequent symptoms of common duct infection; it is rare, tho mentioned emphatically by Ehret and Stolz. It is possible edema occludes the duct on the proximal side, but it does not do so often. Swelling of the mucosa often occludes the cystic duct for days after cholecystotomy, wherein all the stones are removed, and during that period of occlusion no bile escapes thru the external opening and no biliary drainage is in progress.

STONES IN THE COMMON DUCT.

If a stone passes rapidly thru the common duct and is retained for only a few hours or a few days, the patient suffers from the classic attack of colic and pain in the right hypochondrium and referred to the epigastrium, the right subscapular region, and occasionally to the left subscapular region; nausea and vomiting, jaundice and epigastric tenderness, without fever. The colic persists as long as the stone continues to advance in the duct. If the stone becomes stationary, or forms a dilatation of the duct, there is a cessation of this symptom. The amount of icterus will depend upon the degree and duration of occlusion of the duct. When the stone is arrested in the canal the icterus continues, tho it may be remittent. It is never truly intermittent as long as the stone remains in the duct. It is difficult to appreciate how a stone can so occlude the duct as to produce acholic stools for a long period of time, when we think how difficult it is to plug an external biliary fistula so that it will not leak. It should be equally difficult to completely occlude the common duct. The occlusion must be due to the swelling of the mucosa from infection. Occasionally the stone is arrested in the duct, and remains stationary for a longer time. There is then a dilatation of the duct on the hepatic side of the obstruction, which may become so great that the stone is permitted to slide back and forth in the dilated portion of the duct, giving rise to the valve-like action of Fenger. When the stone is in this position, there may be a diminution of the icterus, but it is never completely interrupted. The presence of biliary coloring matter in the blood with icterus absent, for months after the calculus is removed, cannot be interpreted to mean that the duct is still obstructed or the smaller channels are infected.

The patient ceases having the attacks of colic when the stone is not advancing, tho pain may be recurrent. In this upper portion of the duct, as well as in the ampulla of Vater, the canal very frequently becomes infected. Even in the physiologic condition, it is quite common to find infective flora from the duodenum in the apparently normal duct, as high as the bifurcation. When the foreign body causes an abrasion, there is then formed an atrium for infection and absorption, and the patient begins to have the manifestations of infective jaundice, formerly called "pernicious malarial jaundice" or "malignant jaundice of ague." When this infection occurs, we have repeated chills, high fever and rapid subsidence, with complete intermission of the fever and chills, a continuation of the jaundice, with a recurrence of the cycle of symptoms. The temperature angle is the same as mentioned in the infections of the canal higher up, and is equally characteristic. But here it is associated with jaundice, showing the location of the stone. It is not surprising that we have an infection when the stone is arrested in the duct, nor is it to be wondered at that we have pronounced manifestations, both in the quantity of pus produced and the symptoms of sepsis. The neck of the gall-bladder, the cystic duct, and the common duct have a rich supply of lymphatics, and so respond to infection with the same pronounced manifestations as the cervices of the other hollow viscera, such as the urinary bladder and the uterus when acutely infected. Once sepsis is manifested with a stone in the common duct, there appears to be no cessation of recurrence of symptoms of the septic process, until the foreign body is removed. This is exactly what occurs when a foreign body becomes impacted in the nose; we note the fever, the edema, the purulent discharge and eczema, produced by a peanut or grain of corn in a child's nose. When a stone has once formed a diverticulum or dilatation of a duct, it is seen that it is next to impossible for further progress in the canal to take place, and the smaller the duct the greater the liability of the retention. It can, however, escape thru ulceration of the wall of the duct, into the peritoneal cavity or into a neighboring adherent viscus, as the stomach or, more frequently, the duodenum. When the sepsis is pronounced, with the stone in the common duct, it terminates in a comparatively short time; either the stone perforates the canal, and permits the free passage of the bile, or the patient dies of septic cholemia.

When the stone is arrested in the ampulla of Vater, the drainage is frequently more free and the manifestations of sepsis less markt than when it is one half inch or more from that point in the common duct. When in the ampulla of Vater, we have the additional danger of infective pancreatitis or fat necrosis. When in the course of a calculous jaundice we have a sudden and extreme collapse, intense pain without any gradual preceding increase of pain, it is right to assume that the condition is due to a beginning fat necrosis, and not to a perforative peritonitis, nor to a progressive infective cholangitis. In the fat necrosis there is no hyperleucocytosis; with perforative peritonitis, and the acute infective cholangitis there is a pronounced hyperleucocytosis. If an operation be performed the plaques of fat necrosis in the mesentery and omentum, and the nodules in the pancreas will indicate the pathologic condition, tho the stone will be found in the common duct, and a septic peritonitis not manifest.

In these cases the surgeon should not stop with the recognition of the fat necrosis, but continue to the removal of the calculus. For some unexplained reason, the operation appears to have a beneficial effect upon the fat necrosis, even without incision of the pancreas.

The escape of the stone from the gall bladder into the stomach, is not an uncommon complication. In one of my cases, the patient vomited gall-stones for a number of months after I had opened and drained the gall-bladder and removed all the stones in sight. In another I found the stone protruding into the stomach and also into the gall-bladder, from an intermediate gastrocystic pocket or sinus. When large gall-stones are found in the common duct, there may be complete absence of a preceding symptom of colic under the same conditions as we find stones in the cystic duct, and foreign bodies in the intestine without colic, namely: in a dilated portion, stationary and not completely occluding the lumen. These, however, are the rare exception, and it may be laid down as a law: (a) that icterus unaccompanied or preceded by colic is not of calculous origin; and (b) that a gall-stone jaundice is always preceded by colic; if the jaundice be of long duration, the patient may forget the primary attack. As a striking exception to this rule, I shall cite a case. Dr. H., Vancouver, B. C., aged 58, operated at Mercy Hospital. Patient had suffered from jaundice for nine months previous to admission; being a physician, he gave an exact account of the onset. It came on gradually, and never subsided nor diminisht materially in its intensity. There was no pain on the days preceding the attack, and no history of pain or colic in the right hypochondrium. He had lost 23 pounds in weight. The icterus was intense; no tumor detected; some sensitiveness on deep inspiration in the right hypochondrium. From his history, a diagnosis of probable carcinoma of the head of the pancreas was made; there was no sugar in the urine. The doctor wishing an exploratory operation, the usual trans-rectus incision was made. The gall-bladder was enlarged, not materially thickened and practically normal in color. There were no adhesions and in the common duct was found a calculus five-eighths of an inch in diameter, and nine-eighths in length. It was removed and the duct sutured. The pancreas was not involved. Patient's recovery was complete. This case illustrates the type of large stone in the common duct with jaundice not preceded by pain or colic.

In the cystic duct, large calculi are the more common, and here they are forced into the duct by the contraction of the gall-bladder, or better, by the accumulating mucus in the gall-bladder. So gradual is the advancement of these large calculi that colic should not be expected, for physical reasons. The large calculi of the common duct show by their formation that they receive accretions while they are in the duct, recorded by their various biliary-colored layers. From the history and symptoms, with the exception of duration of existence, there is practically no

means of making a differential diagnosis between this and malignant disease.

There are two very strikingly contrasting conditions under which passing gall-stones do not produce colic; one when they are very small, too small to produce obstruction or spasm of the ducts, and the other when they are very large, so large that the wall is paralyzed by the over-distension and infiltration by the extremely slow advance of the stone.

When gall-stones produce obstructions in the intestinal tract, they usually find entrance into that canal by perforations of the wall of the gall-bladder or ducts. This is rarely preceded by icterus, as stones of great size seldom find admission into the intestine thru the common duct. There are no special symptoms by which the obstruction of biliary enterolith can be differentiated from the obstruction of coproliths.

LITERARY NOTES.

Medical Sentinel, of Portland, Ore., can no longer claim to be "the only medical journal of the great Northwest." There has appeared a new monthly, "Northwest Medicine," publisht at Seattle, Wash., by the Washington Medical Library Association. It is edited by Drs. C. A. Smith and J. B. Eagleson. The initial number is a most excellent one, containing 60 pages of good reading matter, neatly presented and creditably illustrated. There are many medical journals in this country not nearly so good as this new candidate for professional favor—hence if they succeed it ought also. If subsequent numbers are as good as this one Bro. Coe of the Sentinel will have a strong competitor.

SAUNDERS' MEDICAL HAND-ATLASES.

Atlas and Epitome of Abdominal Hernias. By Privatdocent Dr. Georg Sultan, of Goettingen. Edited, with additions, by William B. Coley, M. D., Clinical Lecturer on Surgery, Columbia University (College of Physicians and Surgeons). With 119 illustrations, 36 of them in colors, and 277 pages of text. Philadelphia and London: W. B. Saunderds & Co., 1902. Cloth, $3.00 net. This new addition to Saunders' series of Medical Hand-Atlases covers one of the most important subjects in the entire domain of medical teaching, since these hernias are not only exceedingly common, but the frequent occurrence of strangulation demands extraordinarily quick and energetic surgical intervention. While the well-known work of Macready will always remain a classic, it has never made any claims to deal with the operative side of the subject, and this is a side that, during the last decade, has been steadily growing in importance, until now it is absolutely essential to have a book treating of the surgical aspect of the subject. This present atlas does this to an admirable degree and without question will prove of very great value to the general surgeon and general practitioner. The illustrations are not only very numerous, but they excel, in the accuracy of the portrayal of the conditions represented, those of any other work upon abdominal hernias thus far publisht. Indeed, like all the other numbers of this excellent series, the work is a worthy exponent of our present knowledge of the subject, and in its field is unrivaled.

DEAVER'S SURGICAL ANATOMY.

P. Blakiston's Son & Co., of Philadelphia, have just issued the third magnificent volume of "Surgical Anatomy," by John B. Deaver, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. This volume (more than 800 pages, imperial octavo), is devoted to the chest, the abdomen, the pelvis and the lower extremity. It is illustrated by 499 plates—nearly all drawn especially for this work from the original dissections by the author; most of them are photo-engravings on tinted paper and occupying full pages, tho many are diagramatic, like that of an intercostal nerve, for example. Taken as a whole, this stupendous work is one of the best productions of the nineteenth century, in which the labor of the author was completed. It will long stand unexcelled in the field of practical anatomy and should bring to its distinguisht writer a fame which will endure for many years after he sleeps in dust.

STELWAGON'S DISEASES OF THE SKIN.

A Treatise on Diseases of the Skin. For the use of Advanced Students and Practitioners. By Henry W. Stelwagon, M. D., Ph. D., Clinical Professor of Dermatology, Jefferson Medical College and Woman's Medical College, Philadelphia; Dermatologist to the Howard and Philadelphia Hospitals. Handsome octavo of 1125 pages, with 220 text illustrations and 26 full-page lithographic and half-tone plates. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $6.00 net; Sheep or Half Morocco, $7.00 net. This book presents the practical part of the science of dermatology in a sufficiently full and complete manner to make the work one that will give the general practitioner a clear comprehension of the symptomatology, diagnosis, and treatment of the various affections with which he is most likely to come in contact. Diagnosis being the most difficult and confusing part of cutaneous medicine has been wisely accorded considerable attention. The elaborate remarks under "General Diagnosis" will be found of substantial aid in narrowing the diagnostis possibilities. Treatment has been detailed with unusual clearness and accurateness, the author, in addition to the remedies and methods used in his own practice, having referred frequently to those employed and advised by others. But in stating that the book deals with the practical parts of dermatology, it is not to be understood that etiology and pathology have been neglected. These have been given such satisfactory consideration, that the book gives a complete, but concise, reflex of our present knowledge. The clinical and pathologic aspects are further elucidated by a large number of very beautiful illustrations, mainly from the author's own collection, besides a number of colored lithographic plates of exceptional merit. Indeed, the work, tho originally planned for the student and general phyisician, will be found of material assistance to the dermatologist as well, as it presents the most recent advancements in the subject.

MONPROFIT'S SURGERY OF THE OVARIES.

The International Institute of Scientific Bibliography of Paris has just issued a treatise on "Chirurgie des Ovaries et des Trompes," by A. Monprofit, M. D., Professor of Clinical Surgery in the Paris College of Medicine. It is a neatly printed volume of 500 pages, illustrated by 260 figures. For any one who reads French this will be a valuable addition to the surgical or gynecological library. The long, free incision of the abdominal wall pictured for even simple exploration of the pelvis is astonishing those accustomed to the small opening advocated by Lawson Tait.

BUTLER'S MATERIA MEDICA AND THERAPEUTICS.

A Text-Book of Materia Medica, Therapeutics and Pharmacology. By George F. Butler, Ph. G., M. D., Professor of Materia Medica and Therapeutics in the College of Physicians and Surgeons, Chicago, Medical Department of the University of Illinois, etc. Fourth Edition, thoroly revised. Handsome octavo volume of 896 pages, illustrated. Philadelphia and London: W. B. Saunders & Co., 1902. Cloth, $400 net; Sheep or Half Morocco, $5.00 net. The new edition (the fourth) of this commendable work is offered to the profession after a careful and complete revision. The pharmacology and therapeutics of each drug have been thoroly revised, incorporating all the recent advances made in pharmacodynamics. In view of a larger experience, resulting in more definite conclusions, numerous modifications have been made in the expressions of opinion regarding the utility of certain drugs, notably the newer synthetics. The chapter on Organotherapy, Serum-therapy, and cognate subjects have been enlarged and carefully revised. But perhaps the most important addition is the chapter on the newer theories of electrolytic dissociation and its relation to the topic of pharmacotherapy, and the relevant discussion added of the simpler relations of chemical structure to drug action. The profession will undoubtedly greet most cordially this new edition of a work supplying the student of medicine with a clear, concise and practical text-book, adapted for permanent reference no less than for the requirements of the class-room.

BYFORD'S GYNECOLOGY.

A Manual of Gynecology, by Henry T. Byford, M. D., Professor of Gynecology in College of Physicians and Surgeons of Chicago. Large 12 mo., 600 pages, price $3.00. Publisht by P. Blakiston's Son & Co., Philadelphia. This, the third edition, contains much new matter, and has been recast and arranged especially to meet the demands of the general practitioner who does but a small amount of surgery, yet desires to do all in his power for the relief of his gynecological patients. For purpose of ready reference there have been placed on the margin of each page side-notes for each paragraph—constituting "catch-lines" calling attention to the contents of that especial part: an addition which ought to make the book popular. It is a well written book—perhaps a trifle too condenst to suit the average reader of this Journal, but this by probably a large proportion of doctors will be regarded as a mark of merit.

SURGICAL NOTES.

FRACTURE OF THE RADIUS.

Journal of American Medical Association, Dec. 6, contains an article on this subject by Dr. Carl Beck, of New York, in which the author claims that X-ray examinations have shown in Colles' fracture that with the upward displacement is generally associated a lateral displacement, as a rule in the outward direction. He has (as have others) observed a number of cases in which the lower fragment has turned backward on the sagittal axis which itself has turned round. The oblique type in which the joint surface is split was not recognized before the Roentgen era. Beck reduces the fracture thus: The hand of the patient is grasped as in a firm handshaking by the surgeon's left, while the thumb is held by the surgeon's right hand so that the thumb of the latter presses the fragment downward while his index finger presses it inward at the same time. Counter extension must be made at the elbow. In multiple fractures, even the Y-shaped variety, the articular arch of the radius may sometimes be restored by repeated efforts of reposition controlled and corrected by the X-rays. If this proves impossible, speedy osteotomy must be resorted to. He applies a plaster-of-paris dressing immediately after reduction. This embraces the thumb if the displacement is upward, or upward and outward. The direction of the thumb influences that of the fragment. If pressure of the index finger does not keep the fragment down, it must be presst down with a stick. When this is bandaged down, the fluoroscope shows whether or not the fragment is in position. A dorsopalmar and lateral examination must always be made. In the T or Y-shaped variety the outwardly displaced fragment is presst inward by a pad of adhesive plaster. The fragment, toward the ulna, after being shifted into place, is prevented from slipping back by rubber tubing between it and the ulna on the dorsal aspect. The circular plaster dressing in abduction is indicated. He declares we must not depend on palpation alone. Early massage for removal of extravasation is indicated in intra-articular fractures and contra-indicated when there are chips.

ROENTGEN RAY IN CANCER.

Medical Mirror gives a synopsis of a paper on this subject read by Dr. Charles W. Allen before the New York State Medical Society. Dr. Allen's work with the X-ray has not been experimental but follows the establisht practices of others. He considers the Rays as an important and valuable supplement to one's armamentarium, but does not think that they supplant the older methods of treating these conditions entirely. Twenty-eight cases of cancer are presented, all of which have shown satisfactory progress. Eight of the patients have been discharged as apparently cured. One patient died after decided improvement had occurred. Four were lookt upon as practically well, and thirteen are still under treatment. Five of the whole number were cancer of the breast, all recurrent; one of the rectum; one of the pelvis, secondary to removal of the uterus; one of lip secondary to operation; one of jaw, which was supected to be sarcoma; two of nose; one multiple epithelioma of face, nose and eyes in a lad of 15, one globe being so widely involved that the sight was destroyed; the opposite eye being involved in a growth which had been pronounced non-malignant but which is clinically very suspicious of malignancy. The author is of the opinion that the danger of X-ray burn is greatly over-estimated, and can be in most cases avoided, and when a burn occurs a case is quickly cured as a rule. He describes a shield of his own devision for protection of patient against burn. In conclusion he says that (1) the method is one of decided value; (2) it is not without disadvantages and can cause serious troubles if unskillfully handled; (3) that the method will not wholly supplant the older methods, but has its decided place of utility.

LUNG COMPLICATIONS IN APPENDICITIS.

American Medicine says that Sonnenberg has found from examination of his records in 1,000 operations for appendicitis lung complications in 5 per cent of the cases. Seven hundred and forty cases were operated upon in the Moabit Hospital of Berlin. Embolism and infarcts were observed in 3 patients, 2 of whom recovered; in 5 cases of pneumonia 3 of the patients recovered; in 7 cases of pleurisy and 1 of bronchitis all the patients recovered. In his private sanatorium 13 cases were reported; out of 260 operations 3 cases of infarct and 9 out of 10 cases of embolism recovered. Twelve of these complications occurred in operations undertaken during the attack of appendicitis, and only one in an operation in the interval. In 20 cases of thrombosis, the right leg was affected 9 times, the left leg 6 times, both legs in 2 patients, the portal vein in 2 patients, and the vena cava in 1 patient. As to the reason of thrombosis and embolism in appendicitis, Sonneburg believes that in the great majority of cases the cause is infection. The operation, by disturbing the inflamed veins, loosens a thrombus which is thrown into the circulation as an embolus. This may occur either at the time of the operation, or, quite as frequently, several days later.

HYPERTROPHY OF THE PROSTATE.

Dr. Edward L. Keyes, of New York, in Philadelphia Medical News, concludes as follows: Chronic obstruction to urination is the underlying cause of almost all the symptoms attributable to hypertrophy of the prostate gland; this obstruction may be regarded as an elevation of the internal urethral orifice; obstruction may exist without symptoms, and symptoms without obstruction; the immediate cause of all the symptoms is congestion, hence to the patient the disease represents only a congestion, while to the surgeon it represents, for the most part, an obstruction and elevation of the urethral orifice; the symptoms may often be relieved by depleting the congestion without regard to the obstruction, yet such treatment is purely pallative and is not the function of an operation; radical treatment consists in permanent relief of the obstruction in the door of the urethra with little regard to the congestion. This may be accomplisht by cauterization or extirpation of the offending mass thru a perineal or suprapubic incision; the operation to be preferred must attack the obstacle most directly and remove it most rapidly, while preventing hemorrhage and providing drainage; of all the operative procedures so far employed, perineal galvanoprostatotomy most often fulfils these conditions.

CIRRHOTIC ASCITES CURED BY EPIPLOPEXY.

In Annals of Surgery for August, 1902, Brown presents the history of a patient upon whom he operated two and one-half years ago for rapidly recurring ascites due to cirrhosis of the liver. The patient is at present doing heavy work and is practically well. From a study of 14 cases of Morrison's operation (or Talma's) Brown finds that 7 or 50 per cent are greatly improved or cured. He feels assured that the great risks attending operation on advanced and failing cases of ascites due to cirrhosis will be notably wanting in similar procedures applied in earlier stages of the disease. His conclusions are: (1), The more rapid have been the accumulations of ascitic fluid, the greater the reason to provide for long-continued drainage which is to follow the operation and to expect that very gradual improvement in all symptoms is the most and best which can be hoped for. (2) In these advanced and apparently hopeless cases of rapidly recurring ascitic accumulations, the three things of greatest import appear to be: (a) The full appreciation before operation of the necessity and the provision for a constant and thoro aseptic pelvic drainage. (b) The general observance of a rational and aseptic operative technic. (c) The value of Morrison's adhesive strapping to keep in approximation the denuded peritoneal surfaces, and at the same time to compel the serious effusion to find its only available space in the pelvis, appears most evident. The importance of the long continuance of this device was accentuated on two occasions, when a hospital interne attempted at the end of two weeks (and again later) to dispense with the adhesive strapping; each time the accession of ascitic fluid to the upper part of the peritoneal cavity was apparent. (d) An unusual vascularity of the granulation tissue forming the infra-umbilical fistula was shown on several occasions, especially during the last stages, at dressing, by so considerable a hemorrhage as to require instant plugging. From this the writer has inferred that an important and considerable part of the anastomotic circulation may in this patient's case be maintained by this particular band of adhesions.

OPERATIONS FOR TIC DOULOUREUX.

January number of Annals of Surgery contains an excellent article on this subject by Dr. Robt. Abbe, of New York, in which he advocates the interposition of a sheet of rubber tissue as a permanent barrier to the reunion of an intracranial nerve, divided in front of the Gasserian ganglion, and holds that it would in many cases make unnecessary such severe operations as removal of the ganglion. He thinks operations on the ganglion have been overdone, and that resection of one-fourth to one-half inch of nerve anterior to the ganglion and within the cranium, and interposition of rubber tissue can be relied upon for a perfect cure up to six years at least. The probability of permanency he claims to be as great as in any other method. It is a simple, speedy and

safe method, and therefore fulfills the highest aims of the best surgery. He reports a case of six years' standing with good results thus far.

OINTMENT FOR CHAPPED HANDS.

Steffen is credited with the following formula in New York Medical Journal: R. Menthol, 3; Salol, 4; Olive Oil, 4; Lanoline, 100.

M. Sig.: To be applied twice a day. It is said that the pain disappears, the skin softens and the fissures heal promptly.

X-RAY EFFECTS ON CANCER.

After a careful use of the Roentgen ray in twelve cases (details of which may be found in American Medicine, Jan. 31), Dr. H. P. Moseley, of the Presbyterian Hospital, New York, draws these conclusions: (1) The small superficial cases of malignant disease seem to be most susceptible to this method of treatment; (2) The relief of pain is a very prominent feature of the Roentgen ray treatment, and is often noticed after the first exposure. In cases which have not progresst too far, it is almost possible to promise the anesthetic effect. (3) It is impossible to determine from our present knowledge without trial, what cases will be favorably influenced by treatment, but patients should be warned not to be too hopeful. (4) The danger of burning is a real one. Patients should appreciate the possibility of it before treatment is started, altho by precautions it may be avoided. In hospital work when the operator is doing much Roentgen ray work, the greatest precaution should be exercised in the care of his own face and hands. The apparatus should be arranged so that all changes in the tube necessary to be made while it is running can be accomplisht by switches or mechanical devices so placed that the operator can control them at a distance of 12 or 15 feet from the tube.

TREATMENT OF FRACTURED PATELLA.

Attention is called by Philadelphia Medical Journal to Ferraresi's treatment of fractured patella. It consists of an incision about 19 cm. above the patella and carried down below its lower border. From the tendon of the quadriceps a flap is dissected, 2 mm. thick and of sufficient size entirely to cover the border of the flap corresponding to the superior margin of the patella. While an assistant holds the fragments in close apposition, the operator inverts the flap, bringing it down over the patella and stitching it firmly below that bone to the patellar tendon. The lateral margins are then sutured to the surrounding fibrous tissue. Thus the patella is firmly encased in resistant fibrous tissue which permits no displacement of the fragment. The advantages that the author claims for his method are that it does away with the risk of entrance of the sutures into the cavity of the joint and possible induction of a serious arthritis; and it is especially adapted to comminuted fractures. The function of the joint is said to be excellent when this method is used. The same principle has been adapted by Ferraresi to fractures of the olecranon; a flap from the tendon of the triceps being used. The cases which he reports illustrate the favorable results obtained by the application of this method.

SAFE METHOD OF PREPARING CATGUT.

A cheap, simple and apparently effective method of preparing catgut is described by Claudius. Ordinary raw catgut is subjected to dry heat of 100 degrees centigrade for two hours. It is then wound on a glass spool, two knotted threads to a spool, and placed in an aqueous solution of iodine 1 part, potassium iodide 1 part and water 100 parts. The potassium iodide is first dissolved in a small amount of water, and then the finely pulverized iodine added and dissolved in the same, after which this concentrated solution is diluted to 1 per cent. The glass jar is labeled with the date and after eight days the catgut is ready for use and is kept indefinitely in the same jar and fluid. When wanted, a spool is removed to a dish containing a 3 per cent solution of carbolic acid or any indifferent sterile fluid. It is left in this fluid for one and a half to two hours (no longer) to rinse off the superfluous iodine solution. The threads are then cut (below the surface of the fluid) and any not needed is replaced in the iodine jar. The catgut acquires a peculiar consistency by this method of sterilization, becoming plastic and elastic, like that of a fine copper wire, and it is easy to tie. The strength is increast by the carbolized rinsing while the length is not altered. Tests have shown that all spores are killed long before the eight days have elapst. Claudius claims that none of the qualities of the catgut are impaired by even as long as five months in the fluid, as he has establisht again and again.

GYNECOLOGICAL NOTES.

EOSINOPHILES IN PELVIC LESIONS.

Weir, after a careful investigation, has reacht the following conclusions (Journal of American Medical Association): 1. Eosinophiles take a prominent part in the cellular infiltration associated with inflammatory and suppurative processes of the pelvic organs. 2. In such conditions they usually occur in the largest numbers in the subacute stage and associated with connective tissue hyperplasia. 3. Eosinophilic infiltration is found in most cases of carcinoma of the cervix and in almost all cases of pyosalpinx and ovarian abscess. 4. In inflammatory conditions of the endometrium eosinophiles occur in small numbers and in but few cases. 5. Eosinophiles represent a large proportion of the cells forming the stroma of the muscosa in the normal and the diseased appendix. 6. In inflammatory conditions of the pelvic organs associated with an eosinophilic infiltration of the tissues the percentage of eosinophiles in the circulating blood is rarely increast and usually decreast.

FIBROIDS COMPLICATING PREGNANCY.

In a recent article on fibroid tumors of the uterus Dr. J. Riddle Goffe, of New York, expresses the opinion that the only proper treatment of this condition is operation, whether the tumor be small or large, whether it be in a married woman or a single one, except in a woman of advanced years or one in whom the tumor is complicated by pregnancy. He believes that the majority of cases of fibroid tumor of the uterus complicated by pregnancy will go to full term and be delivered normally. In the hands of an expert, Cesarean section at full term is safer for the mother and child than myomectomy during gestation in the rare instances in which such an extremity is required.

OPERATION FOR STERILITY.

In a late article Dr. W. M. Polk, Professor of Gynecology in Cornell University, New York, says that sterility is most often due to some obstruction in the channels of communication extending from the ostium vaginae to the ovary, and is therefore very often the result of inflammation of the appendages and may be removed by an operation upon the tubes. He thinks at present the operation upon the uterine appendages for the purpose in question is no more dangerous than was the accepted operation upon the uterus for that purpose 30 years ago, and is therefore equally justifiable. Reference is made to a case in which he operated upon a patient for the avowed purpose of correcting a condition of sterility. The left appendages were freed from adhesions and the right tube in part removed, because it had become a hydrosalpinx and the ovary was cystic. Two years later the patient gave birth to a child. He cites similar instances from other operators, and concludes that when careful investigation has shown conclusively that sterility is due to some remediable condition of the appendages surgical interference is advisable.

TETANUS FOLLOWING ABDOMINAL SECTION.

At the Washington meeting of the American Association of Obstetricians and Gynecologists, Dr. Walter B. Dorsett, Professor of Gynecology in the Sims-Beaumont Medical College of St. Louis, detailed cases of tetanus due to infected ligatures used in ventrofixation of the uterus. He said there is a widespread belief among the laity that deaths following laparotomies and other major operations are due to the operation per se and not to the causes for which the operations are done. The sooner these false beliefs are eradicated the better both for the profession and the public and the duty of the correction of this errouous idea lies with the medical profession, but in these cases the cause of death was due directly to the operation and should be so classt.

CANCER OF THE UTERUS.

Dr. L. H. Dunning, Professor of Gynecology in the Medical College of Indiana, Indianapolis, has made 62 vaginal hysterectomies for carcimona uteri. Reporting these at the American Association of Obstetricians and Gynecologists he said that on applying the accepted test of time—5 years—that he has an encouraging number of cures; the cases also showed the desirability of early operative procedure. The essayist reported five cases of carcinoma of the cervix uteri which were alive five years after hysterectomy.

CESAREAN SECTION FOR PLACENTA PREVIA.

This operation, first suggested by Dr. W. Hudson Ford, of St. Louis and first made by Bernays, has lately been the subject of considerable discussion. In a late article Dr. E. Gustave Zinke, of Cincinnati, has gone exhaustively into the history and literature of this subject and considered the cases reported. He refers to the justifiability of the operation and the class of cases to which it is applicable. He likewise calls especial attention to the contraindications to the operation, comparing the management of placenta previa with and without Cesarean section. He believes that the Cesarean and the Porro operations are perfectly legitimate and elective procedures in all cass of placenta previa, central and complete, and especially so when the patient is a primipara, when the os is closed and the cervix unabridged; when hemorrhage is profuse and can not be controlled by tampons and separation of the placenta around the internal os. That there are cases of partial previa which may be successfully treated in the old way, he does not doubt. Perhaps a small majority of all the placenta previa cases could be treated successfully, so far as the mothers are concerned, after the manner of Fry and De Lee. But what of the large minority of mothers that succumb and the great majority of children that are sacrificed at once? This question he regards as a very serious one, and one which should be earnestly considered; and when one is confronted with a case of central or complete placenta previa, or any other variety, where dilatation of the cervix is impossible or difficult, the patient and her immediate friends should be made acquainted with all the facts concerning both methods of treatment. If properly presented, he believes it to be doubtful whether the majority of women would select forcible dilatation, version, extraction, etc., in preference to the Cesarean operation by a skillful surgeon.

LIMITATIONS OF VAGINAL SECTION.

American Medicine gives a synopsis of the views held by Dr. J. Riddle Goffe, of New York, on this subject: There are two vaginal incisions thru which one may reach the pelvic cavity: one posterior to the Douglas's pouch and the other anterior to the cervix, separating the bladder from the uterus. The anterior incision possesses all the requisites of an exploratory incision, being free from danger, giving facilities for gaining the desired information and opportunity for completing such surgical procedure as may be indicated. For incision and drainage of pelvic abscesses, the anterior method is rarely used, the opening being made posterior to the cervix or in the lateral sulci of the vagina, the indication for this being large pelvic abscesses in patients acutely ill, and in those prostrated by long-continued suppuration. It is necessary to have an incision sufficiently large to afford ample drainage, and one must remember the importance of avoiding any cutting of the uterosacral ligaments so essential in retaining the uterus in position. As to cancer of the uterus, one which cannot give a fair prospect of cure by vaginal hysterectomy would be better left alone. Goffe also believes in the principle that the uterus is supported exclusively by its ligaments, and that the ligaments alone are the proper tissues to utilize in restoring and maintaining a displaced uterus in its normal position; that these ligaments, either round or uterosacral, should be operated upon by vaginal incision, and that at the same time all ordinary complications, such as diseased appendages, etc., can be satisfactorily treated thru the same incision. This is his experience. He had had 150 cases of displacement of the uterus, and no operation has given such universal satisfaction as shortening the round ligaments thru vaginal incision. Goffe also advocates vaginal incision for removal of tumors and, wherever possible, prefers myomectomy to hysterectomy. The latest application of anterior vaginal incision is the relief of cystocele. The reason that operation for cystocele has so often been a failure is the fact that the principle invoked is that of support from below rather than suspension from above. Goffe describes a procedure in which the bladder is attacht high up on the broad ligament and anterior surface of the uterus with very satisfactory results. He asserts that the vaginal method lends itself to every form of conservative work; it requires patience, experience and skill, and while the general surgeon will scarcely be expected to perfect himself in the technic of this line of work, there is every reason why the gynecologist should.

GONORRHEAL VAGINITIS.

For gonorrheal vaginitis a one-half of one per cent solution of formalin has given good results for douching and tampons.

CESAREAN SECTION BETTER THAN CRANIOTOMY.

Time and again the Journal has called attention to the fact that Cesarean section by modern methods gives a better maternal mortality than craniotomy—besides saving a considerable proportion of the children instead of sacrificing all. Voorhes, of the Sloane Maternity Hospital states (Medical Critic) that now craniotomy is regarded as justifiable only in these three conditions: (1) In a non-viable child where the mother's life is in the balance—albuminuria, eclampsia, placenta previa, etc. (2) In the case of a monster; and (3) when the fetus is larger than the birth canal, and is dead when the physician first sees the patient. He mentions the deliberate craniotomy on the living child when the mother is in good condition only to condemn it, and then takes up the question of performing one of the cutting operations upon the mother in order to save the child, when the condition of the former is not good. He gives statistics showing that the results of the Cesarean section are vastly superior to those of craniotomy and while he recognizes the fact that these are hospital cases, with all that is thereby implied, still he does not see why the results in private practice, where more serious operations are frequently and successfully performed, should not be as good; and therefore he hopes that the time will soon arrive when craniotomy on the living child will not longer be performed. After describing the method of performing craniotomy, he goes on to a discussion of the indications in all the cases which occurred in the Sloane Maternity Hospital and ends his paper with the following conclusions: (1) That craniotomy is an operation of great usefulness, but one whose field has been narrowed to cases where the child is dead, except on occasions of grave emergency, and where a mother's life would be jeopardized by a cutting operation. (2) That the operation of itself should be attended with practically no mortality in the hands of a careful operator. (3) That the cutting operation, especially Cesarean methods, should be done more frequently in proper cases, inasmuch as the maternal mortality has been reduced almost to nothing in the improvement of the technic of these operations, and especially as almost every baby can be saved.

THE CHIEF CAUSE OF STERILITY.

President Roosevelt has recently created quite a commotion by his letter on the increasing sterility of American women, based upon the presumption that it is chiefly voluntary. This is not true of Roman Catholic and Jewish women—taken as a whole—tho it does apply to many Protestants; but the truth is the chief trouble is the alarming, terrible spread of gonorrhea. Any gynecologist of wide experience will corroborate this. Philadelphia Medical Journal of Jan. 31, says: There has occurred of late a markt reaction in the accepted belief as to the etiology of sterility in women. It was formerly the rule to ascribe the larger percentage of sterile marriages to antefiexion of the uterus with accompanying cervical stenosis; to enforced sterility from the use of shields; to some obscure change resulting from the higher education of women; to syphilitic endometritis; and to some sexual incompatability between the man and the woman. There is not a shadow of doubt that all these, and other factors not mentioned, have a share in the production of sterility in some of its forms. It is now very generally recognized, however, that while "chercher la femme" is an excellent adage for one's guidance in many lines of life, it should not over-shadow exploration elsewhere in the question of sterility. The extreme importance of gonorrhea in the male in the production of sterility is universally admitted; a very perceptible percentage of unfruitful marriages, which are unjustly attributed to some defect on the part of the woman, may be traced to a double epididymitis with hermetic closure of the tubes, or from an obscure affection of the spermatic tubules resulting in the discharge of deformed or effete spermatozoa. But of even more importance than this male sterility, the result of the action of the gonococcus (the clap germ) when introduced into the genital tract of the woman, produces such radical changes in the mucous membranes that sterility on the part of the woman is almost certain. The alkaline leukorrhea that results is inimical to the vitality of the spermatozoids, should they be healthy. Again, if the Fallopian tubes be involved in the process, the cilii are quickly shed, and by their absence prevent the ingress of the ovum into the uterine fundus. The activity of the pathogenic process also produces such a tumefaction of the tubal walls that the lumen of the tube is obliterated, and hermetic closure follows from adhesive inflammation. Gonorrhea must therefore be regarded as the most prolific cause of sterility both in the woman and in the man.